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ABSTRACT

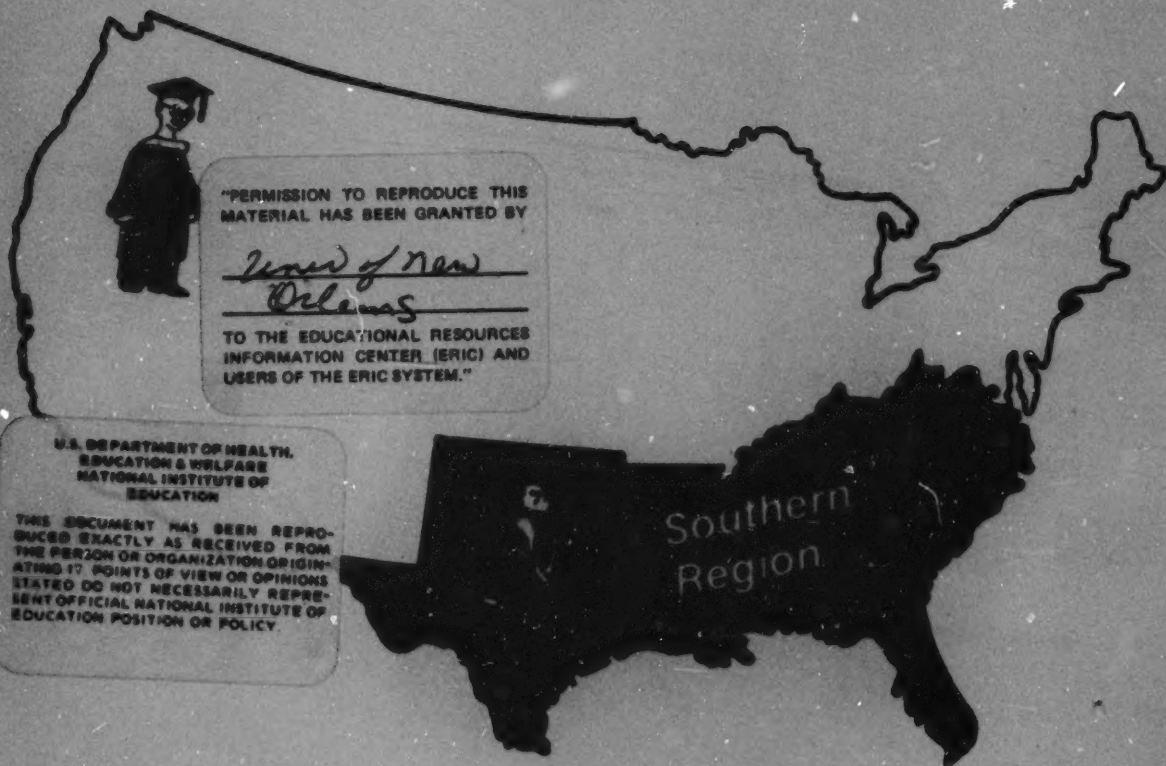
The study was designed to gain information about the demand for and supply of new business Ph.D's and D.B.A.'s in the southern states. Some of the topics addressed are: (1) the number of new doctoral faculty needed, by specialization over each of the next four years; (2) the types of schools where hiring needs are expected to exist, by size of business enrollments, professional accreditation status, and type of control; (3) the sources for recruitment of new doctoral faculty; (4) recruiting and hiring practices of southern schools, including sources of potential faculty and timing of contract offers; (5) the expected output of new business doctorates, by specialization over each of the next four years; (6) regional placement of new doctorates from the southern states over the last three years; and (7) doctoral demand and supply from a national perspective, including a review of recent reports. (MSE)

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BUSINESS DOCTORATES IN THE SOUTH 1977 - 1981

Barry Render • William Wagoner
James R. Bobo • Stephen Corliss



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**BUSINESS DOCTORATES
IN THE SOUTH
1977-1981**

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October, 1977**

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Association.**

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We also wish to express our gratitude for financial and staff support to the Division of Business and Economic Research of the University of New Orleans. Secretaries Bridget P. Dawson and Nancy Kent did an excellent job on the several drafts of this report.

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TABLE OF CONTENTS

	Page
LIST OF TABLES	i
 CHAPTER 1.	
INTRODUCTION	1
The Southern Region	3
Methodology of Data Collection	4
Sampling Frame	5
Questionnaire Design	5
Survey Procedure	9
Response Rate	12
 CHAPTER 2.	
DEMAND FOR NEW BUSINESS DOCTORATES	
IN THE SOUTH	15
Projected Demand in Southern States	16
Alabama	18
Arkansas	19
District of Columbia	19
Florida	20
Georgia	20
Kentucky	22
Louisiana	22
Mississippi	23
North Carolina	23
Oklahoma	25
South Carolina	25
Tennessee	26
Texas	27
Virginia	28
West Virginia	28
Summary of State Demand Areas	30
Demand for New Doctorates in Different Types of Schools	32
Accredited versus Non-accredited Schools	32
Public versus Private Control	34
Large versus Small Business Enrollments	36

CHAPTER 2. (Continued)

Where the South Finds its Doctorates	38
Recruiting by State	39
Hiring of Southern Ph.D.'s by Southern Schools	41
Hiring Patterns and Accreditation	43
Hiring Patterns in Academic Specializations	46

CHAPTER 3.

RECRUITING AND HIRING PRACTICES OF COLLEGES AND UNIVERSITIES IN THE SOUTH	49
Sources Used to Recruit New Business Faculty	50
Seasonal Hiring Patterns	56

CHAPTER 4.

THE SUPPLY OF BUSINESS DOCTORATES IN THE SOUTH	59
Aggregate Supply in the South	59
Demand and Supply in Each Academic Area	61
A Comparison With the U.S. Doctoral Mix	64
Projected Doctoral Production by State	66
Texas	66
Alabama	68
Arkansas	69
District of Columbia	70
Florida	70
Georgia	71
Kentucky	73
Louisiana	74
Mississippi	75
North Carolina	76
Oklahoma	77
South Carolina	78
Tennessee	79
Virginia	80
West Virginia	81
Highlights of Doctoral Supply Analysis	82
Doctorate Producing Universities	83
Academic versus Non-academic Jobs for Ph.D.'s	84
Where Doctoral Graduates Work	87
Destination and Academic Disciplines	90
Increasing Doctoral Production in the South	92

	Page
CHAPTER 5.	
A LOOK AT DOCTORAL DEMAND AND SUPPLY	
FROM A NATIONAL PERSPECTIVE	95
The Cartter Study	96
Bureau of Labor Statistics Study	101
Projections of the National Center for Education	
Statistics	104
<u>AACSB Bulletin</u> Articles	110
Concluding Commentary	113
REFERENCES	117
ABOUT THE AUTHORS	119

LIST OF TABLES

Table	Page
1-1 Survey Response Levels by State and Region	14
2-1 Demand for New Doctoral Business Faculty in the Southern Region	17
2-2 Alabama's Demand for New Doctoral Business Faculty . .	18
2-3 Arkansas' Demand for New Doctoral Business Faculty . .	19
2-4 District of Columbia's Demand for New Doctoral Business Faculty.	20
2-5 Florida's Demand for New Doctoral Business Faculty . .	21
2-6 Georgia's Demand for New Doctoral Business Faculty . .	21
2-7 Kentucky's Demand for New Doctoral Business Faculty . .	22
2-8 Louisiana's Demand for New Doctoral Business Faculty .	23
2-9 Mississippi's Demand for New Doctoral Business Faculty.	24
2-10 North Carolina's Demand for New Doctoral Business Faculty.	24
2-11 Oklahoma's Demand for New Doctoral Business Faculty. .	25
2-12 South Carolina's Demand for New Doctoral Business Faculty.	26
2-13 Tennessee's Demand for New Doctoral Business Faculty .	27
2-14 Texas' Demand for New Doctoral Business Faculty	28
2-15 Virginia's Demand for New Doctoral Business Faculty . .	29
2-16 West Virginia's Demand for New Doctoral Business Faculty.	29
2-17 High Demand Academic Specializations for New Doctorates, by State, 1977-81	31
2-18 Demand for New Business Doctorates in AACSB-accredited and Non-accredited Schools in the Southern Region A. Demand in 60 Schools with AACSB-accredited Programs	33
B. Demand in 614 Non-accredited Schools	34
2-19 Demand for New Business Doctorates in Public and Private Colleges in the Southern Region A. Demand in 404 Public Colleges	35
B. Demand in 270 Private Colleges	35

LIST OF TABLES (Continued)

Table		Page
2-20	Demand for New Business Doctorates in Schools with Large and Small Business Enrollments	
	A. Demand in 148 Schools with more than 500 Business Majors	37
	B. Demand in 248 Schools with less than 500 Business Majors	37
2-21	Where Southern States Found New Business Faculty . . .	40
2-22	Distribution of Doctoral Hires Within the South	42
2-23	Where AACSB Accredited Southern Schools Found New Business Faculty, by State	44
2-24	Where Non-accredited Southern Schools Found New Business Faculty, by State	45
2-25	Where Southern States Found New Business Faculty, by Academic Area	47
3-1	Sources Used to Recruit New Faculty in Southern Schools.	51
3-2	Recruiting Sources Used in Public and Private Schools .	52
3-3	Recruiting Sources Used in AACSB-Accredited and Non-accredited Schools	54
3-4	Recruiting Sources Used in Large and Small Business Schools	55
3-5	Time of Year Hiring Offers Extended	57
4-1	Supply of New Business Doctorates in the Southern Region	60
4-2	Demand for New Doctoral Business Faculty in the Southern Region	61
4-3	A Comparison of Four Year Doctorate Demands and Supplies in the Southern Region	62
4-4	Percentage Mix of Doctoral Degrees by Academic Area in the United States and the South	65
4-5	Texas' Projected Supply of Business Doctorates, by Academic Area	67
4-6	Alabama's Projected Supply of Business Doctorates, by Academic Area	68
4-7	Arkansas' Projected Supply of Business Doctorates, by Academic Area	69
4-8	District of Columbia's Projected Supply of Business Doctorates, by Academic Area	70
4-9	Florida's Projected Supply of Business Doctorates, by Academic Area	71
4-10	Georgia's Projected Supply of Business Doctorates, by Academic Area	72

LIST OF TABLES (Continued)

Table	Page
4-11 Kentucky's Projected Supply of Business Doctorates, by Academic Area	73
4-12 Louisiana's Projected Supply of Business Doctorates, by Academic Area	74
4-13 Mississippi's Projected Supply of Business Doctorates, by Academic Area	75
4-14 North Carolina's Projected Supply of Business Doctorates, by Academic Area	76
4-15 Oklahoma's Projected Supply of Business Doctorates, by Academic Area	77
4-16 South Carolina's Projected Supply of Business Doctorates, by Academic Area	78
4-17 Tennessee's Projected Supply of Business Doctorates, by Academic Area	79
4-18 Virginia's Projected Supply of Business Doctorates, by Academic Area	80
4-19 West Virginia's Projected Supply of Business Doctorates, by Academic Area	81
4-20 Universities Producing Doctorates in Business and Economics in the South, 1974-1977	85
4-21 Employment of Doctorates in Education, Industry, and Government, 1972	87
4-22 Where Doctoral Graduates of Each Southern State Went to Work, by Region, 1974-77	88
4-23 Where Doctoral Graduates of Each Academic Discipline Went to Work, by Region, 1974-1977.	91
5-1 Relationship of Earned Doctorates to First-Year Graduate Enrollment Four to Six Years Previously	98
5-2 Projected Openings and New Supply for Ph.D.'s, 1974-85 .	103
5-3 Bachelor's Degrees Conferred in Business in the United States, Number and Annual Percentage Growth, Actual 1960-61 to 1975-76 and Projected 1976-77 to 1985-86 . .	105
5-4 Master's Degrees Conferred in Business in the United States, Number and Annual Percentage Growth, Actual 1960-61 to 1975-76 and Projected 1976-77 to 1985-86 . .	106
5-5 Doctoral Degrees Conferred in Business in the United States, Number and Annual Percentage Growth, Actual 1960-61 to 1975-76 and Projected 1976-77 to 1985-86	107
5-6 Estimates of New Ph.D.'s Which will be Required to Maintain Terminality Ratios for Selected Business Disciplines, 1970 to 1980	112

CHAPTER 1

INTRODUCTION

In the early 1980's, probably less than one in five Ph.D.'s are likely to find academic positions.

Allan M. Cartter, 1976

The number of doctoral degree recipients has decreased in recent years, and there are currently acute shortages in certain fields.

Robert C. Turner, 1976, Business Horizons

'The jobs are simply not there today.

Phyllis Schlafly, 1977, Copley News Service

Ten years from now, nine out of ten Ph.D.'s will not be able to find jobs as college professors.

National Board on Graduate Education, 1974

The lack of information, and presence of conflicting information, regarding supply and demand conditions for new doctoral faculty is a subject of immediate concern to many of us. Universities training doctoral students have a moral concern that their graduates will find job positions commensurate with their years of education. The students in such Ph.D. programs worry that the demand for their specializations may diminish or disappear by the time they reach graduation—or may be so limited within a few years that there will be

no opportunity for advancement and upward mobility. Two-year and four-year colleges and universities needing to hire new faculty are concerned that a sufficient number of quality doctoral graduates will be available to meet their recruiting needs, within their budget restrictions.

Despite the importance of these concerns to students, faculty, and administrators, few research studies which are of particular significance to the three parties have been conducted. Even less literature exists which is directly related to demand and supply conditions for new Ph.D.'s in the fields of business and economics. And although the U.S. Department of Labor and other agencies project the demands for new Ph.D.'s in business and commerce, their surveys are neither by geographic location nor academic specialization.¹

This research study is the result of the concern of many people about the lack of information regarding the demand and supply of new business Ph.D.'s and D.B.A.'s in the South.² Its objective is to determine the need for and availability of new doctorates, by area or specialization, in the Southern Region of the United States for the remainder of the 1970's.

¹The U.S. Department of Labor study detailed in Chapter 5, incidentally, estimated in 1974 that demand for new Ph.D.'s in business will be only 1,600 by 1985, while supply will be approximately 13,300.

²Throughout this report, the term business Ph.D. is used to represent all business doctorates, including the D.B.A. degree.

The Southern Region

Although some external facts and figures are provided due to the considerable movement of doctoral faculty between regions of the nation, this research report limits itself for the most part to manpower conditions in the Southern Region. The Region, as defined by the Southern Business Administration Association (SBAA), consists of the following fourteen states plus the District of Columbia: Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia. For the remainder of this report, the term "Southern Region" will be synonymous with this definition.

Some of the important topics which our study addresses are:

1. The number of new doctoral faculty needed--by specialization over each of the next four years--in the Southern Region and its individual states (found in Chapter 2).
2. Analysis of the types of schools where hiring needs are expected to exist--by size of business enrollments, by AACSB accreditation status, and by public versus private control status (in Chapter 2).
3. The sources of recruitment of new doctoral faculty by Southern Region schools (also in Chapter 2).
4. Recruiting and hiring practices of Southern schools--including sources used to locate potential faculty and the seasonal timing of contract offers (found in Chapter 3).
5. The expected output of new business doctorates--by specialization, over each of the next four years--in the Southern Region and its individual states (Chapter 4).

6. A study of the regional placement of new doctorates, trained in the Southern Region, for the past three years (also found in Chapter 4).
7. Doctoral demand and supply from a national perspective, including review of the leading reports to date (Chapter 5).

The remainder of this chapter, meanwhile, is addressed to the methodology used by the research team to develop the data presented in Chapters 2, 3, and 4. The discussion of sampling frame, questionnaire design, survey procedures, and an analysis of respondents and non-respondents follows.

Methodology of Data Collection

Few people enjoy reading of the methodology behind a research study. The results (or even the highlights of the findings) are generally viewed as sufficient information for administrators busy with daily responsibilities. However, it is important in the case of this study to have an awareness of the procedures by which data were gathered for succeeding chapters, since no prior research of this nature or magnitude has been attempted in the field of business. The purpose of this section is to briefly document the steps followed, in the period February-September, 1977, in gathering and analyzing the information about to be presented. Because of the thoroughness of these steps, we believe that our report provides an accurate picture of doctoral demand and supply in the Southern Region--and also provides valuable insights into the issue of Ph.D. supply and demand in business throughout the United States.

Sampling Frame

In order to contact each of the more than 800 colleges and universities in the Southern Region, an excellent mailing list and three sets of mailing labels were purchased from the U.S. Office of Education. The list, containing the name and title of an appropriate administrative officer at each campus, was programmed from the Office of Education's 1976 roster. Selected as respondents for individual schools were: (1) the dean or director of the academic business unit, if such a unit existed; (2) otherwise the campus academic dean or vice-president; (3) or, when the college was so small as to not have these levels of officers, the president.

Included in the survey were 816 schools of all sizes throughout the Region. Approximately sixty schools (specializing in medicine, dentistry, art, marine science, and divinity) were purposely excluded because their curricula clearly precluded past, present, or future demand for business doctorates.

Questionnaire Design

Several stages of questionnaire design resulted in the survey instrument presented as Figure 1-1 on the following three pages. Part A deals with business enrollment data; Part B with recruiting sources and hiring patterns for locating new doctoral faculty; Part C with each school's estimated demands for new doctoral business faculty; Part D with the state origin of new doctoral hires--an indication of regional Ph.D. flows to Southern states; Part E (mailed to and

Figure 1-1

**SOUTHERN BUSINESS ADMINISTRATION ASSOCIATION
NEW DOCTORAL DEMAND SURVEY**

PART A. BACKGROUND DATA.

Name of your institution _____

Your name and position _____

Approximately how many students enrolled at your school are majoring in business or taking a concentration in business courses for each of the following degrees?

_____ Associates _____ Bachelors _____ Masters _____ Doctorates

NOTE: If your institution has hired no full-time Ph.D. or D.B.A. business faculty in the past 3 years and has no intention of doing so in the next 3-4 years, please place a check in this box, ☐ skip the rest of the questions and return this form as is.

All respondents will be mailed a copy of the results of the study.

PART B. SOURCES USED TO RECRUIT NEW BUSINESS FACULTY

What recruiting sources are considered the most productive in your school? (Please rank the three most useful or productive sources with a '1' representing most useful, '2' for second most useful, '3' for third most useful.)

- _____ Conference recruiting
- _____ Personal contacts of faculty
- _____ Advertising in journals, magazines, etc.
- _____ Letter to a wide list of potential schools
- _____ Letter to a small, selected list of doctoral producing schools
- _____ Unsolicited applications
- _____ Other — Please specify _____

At what time of year is your school's hiring offer *usually* extended to candidates? Check one.

- _____ Fall before Winter vacation _____ Winter _____ Early Spring, before Easter
- _____ Late Spring _____ Summer _____ Varies — no set time in general

Figure 1-1

PART C. YOUR DEMANDS FOR NEW DOCTORAL BUSINESS FACULTY

Taking into consideration your future enrollment, budget trends, retirement and attrition rate, what is your estimate of NEW/RECENT Ph.D. or D.B.A. business faculty in the following areas of specialization for each of the next four years. (By NEW/RECENT faculty we mean positions to be filled by a person whose doctorate has been completed within the past 12 months, or a person who is nearing completion of his degree, i.e., A.B.D.).

Please enter your estimate in each box (place a zero in the space if no demand is anticipated).

AREA OF SPECIALIZATION	ACADEMIC YEAR			
	1977-78	1978-79	1979-80	1980-81
General Business				
Accounting				
Economics**				
Finance (Including Insurance and Real Estate)				
Management (Including Personnel, Policy, Production, and Organizational Behavior)				
Marketing (Including Transportation)				
Quantitative Methods (Including Operations Research, Statistics, Information Systems)				
Other — Please specify				

**If the Economics department or area at your school is located outside of the business unit, please contact that department administrator for his or her estimates.

PART D. WHERE YOU FOUND YOUR NEW DOCTORAL FACULTY

For the last *three* years, please list the name of the institution from which each NEW/RECENT Ph.D. or D.B.A. hired received (or will receive if A.B.D.) the doctorate and his or her area of specialization.

<u>Name of institution from which faculty member received doctorate</u>	<u>Area of Specialization (using categories in above table)</u>
1. _____	_____
2. _____	_____
3. _____	_____
4. _____	_____
5. _____	_____
6. _____	_____
7. _____	_____
8. _____	_____
9. _____	_____
10. _____	_____

If more than 10 NEW/RECENT faculty have been hired in the past 3 years, please provide an estimate of the actual number hired _____.

Figure 1-1

PART E. THE NUMBER OF NEW Ph.D.'S AND D.B.A.'S YOU WILL BE GRADUATING

Please estimate your school's expected doctoral graduation, by area of specialization, in each of the next 4 years.

AREA OF SPECIALIZATION	ACADEMIC YEAR			
	1977-78	1978-79	1979-80	1980-81
General Business				
Accounting				
Economics**				
Finance (Including Insurance and Real Estate)				
Management (Including Personnel, Policy, Production, and Organizational Behavior)				
Marketing (Including Transportation)				
Quantitative Methods (Including Operations Research, Statistics, Information Systems)				
Other — Please specify				

**If the Economics department or area at your school is located outside of the business unit, please contact that department administrator for his or her estimates.

PART F. WHERE YOUR DOCTORAL GRADUATES GO

Please complete the following for your doctoral graduates over the past three years.

Student's area of specialization (using categories in above table)	Year of Graduation	Name of graduate's first employer	State where employer is located
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____

If more than 10 students have received their business doctorates in the past 3 years, please provide the actual number _____.

completed by only those universities producing doctorates in business and/or economics) with the forthcoming supply of doctorates; and Part F (also completed only by doctorate granting schools) with the regional placement of recent recipients of the doctoral degree in business or economics--an indication of patterns of outmigration, the distribution of Ph.D.'s entering academia, government, and industry, and the flow of placements by area of specialization.

Questionnaires were pretested on eight New Orleans area colleges that covered the spectrum from small junior colleges to major four-year and doctorate granting universities.

Survey Procedure

The first mailout, of over 800 questionnaires, took place in early May, 1977. Each questionnaire was accompanied by a cover letter on SBAA stationery and a fact sheet briefly describing the SBAA and its objectives (see Figures 1-2 and 1-3, respectively). A second mailout to 441 schools that had not responded within three weeks took place at the end of May, 1977. In mid-June, 1977, each non-responding institution known to have a distinct academic business unit was contacted for a third time. Each dean of the 40 doctoral producing schools in the Region was first reached by personal letter, and then by telephone followup until a response was received. In the case of economics departments housed outside of an existing college of business, the appropriate chairman was contacted directly if the business school's response did not include the requested economics data. This, it

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Dear Administrative Officer:

We need your help! The Southern Business Administration Association (SBAA) through its officers and Executive Committee is supporting a survey leading to information regarding supply and demand conditions for new Ph.D. and D.B.A. faculty in business fields for the remainder of this decade. This information should help provide timely information that may be used to guide doctoral training institutions, hiring institutions, and prospective doctoral candidates in their planning.

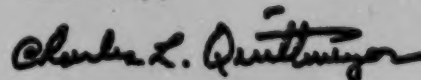
You have been identified as the administrator in your institution who would be best able to answer the questions on the enclosed form. Would you please take a few minutes' time from your busy schedule to complete the questionnaire and return it in the enclosed prepaid envelope to our University of New Orleans research team? (If this letter would have been more correctly addressed to another individual in your institution, would you please forward the questionnaire to that person?)

In completing the questionnaire, you will probably find the questions self-explanatory. Part A is to be filled out regardless of the size of your business unit and whether you have ever hired or plan to hire doctoral business faculty. Parts B, C, and D should be completed if your business unit has hired any Ph.D.'s or D.B.A.'s in business over the past three years or desires to do so in the next four years. If you do have any questions requiring clarification, feel free to call Dr. Barry Render at the University of New Orleans (phone number 504/288-3161, ext. 248).

We are very appreciative of your participation in this important study and will, of course, be pleased to provide you with a copy of the results in published form at the end of this summer. We do ask that you return the completed questionnaire within two weeks of the day it is received.

Once again, thank you for the help.

Sincerely,



Charles L. Quittmeyer
President

CLQ:gh

WHAT IS THE SOUTHERN BUSINESS ADMINISTRATION ASSOCIATION?

The Southern Business Administration Association (SBAA) is an organization of over 200 deans and chairmen of colleges and departments of Business Administration. It is a regional group, drawing most of its members from a broad Southern expanse from Texas to Virginia, and is closely affiliated with the American Assembly of Collegiate Schools of Business.

Objective

The Association's objective is the betterment of education for business in the colleges and universities of the South. It attempts to meet this objective through programs and workshops at its annual meeting and at member institutions. Topics addressed include relationships between business and higher education, curricula trends, college and department administration, developments in instruction, admissions standards, and fund raising.

SBAA Region

Fourteen states plus the District of Columbia are in the SBAA's region. The states are Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia.

should be noted, is important in developing an accurate picture of all economics faculty supply and demand--not just one of business school supply and demand for economics faculty.

Response Rate

In order to develop a factual representation of doctoral supply and demand in the Region, a high level of response, especially from among significant users and producers of Ph.D.'s, was sought--and achieved. As shown in Table 1-1, an overall response rate of 82.6 percent (674 schools out of 816 in the Region) was attained.³ Perhaps more importantly, 100 percent (all 40) of the doctorate producing universities in the South responded in full; and 98.4 percent (60 out of 61) of all AACSB accredited schools completed the survey.⁴ Of the 142 non-responding institutions, 77 (comprising 54 percent) had total enrollments under 1,000 students, and only seven (or 4.9 percent) had total student enrollments of over 5,000.⁵ No campus with more than 10,000 students failed to respond.

³ Eighteen additional questionnaires were either received too late for analysis or were unusable due to incomplete answers.

⁴ Howard University, of Washington, D.C., was the only accredited school refusing to participate in the study. Central Arkansas State University was the only other institution containing a business school that did not respond.

⁵ The seven largest non-participating schools were as follows: Pensacola Junior College (Florida), North Carolina Central University, El Centro College (Texas), Tyler Junior College (Texas), George Mason University (Virginia), Federal City College (D.C.), and Howard University (D.C.).

The following chapters make no attempt to extrapolate demand for business doctorates for the schools which did not participate in the study. Our analysis of those 142 institutions leads us to believe that their Ph.D. hiring needs are not a significant factor at this time. The vast majority are two-year colleges without degree offerings in the business area.

Table 1-1 also reveals that approximately 59 percent (396 out of 674) of the responding schools had hired one or more new business doctorates recently, or intend to do so in the near future. These 396 schools had business enrollments totaling 346,241, whereas the 278 non-hiring schools had 76,103 business majors.

All 60 of the AACSB accredited schools were among the 396 hiring schools completing Parts B, C, and D of the questionnaire. Public colleges and universities comprised 56 percent of those schools planning to hire, and private colleges the other 44 percent; thirty-seven percent (or 148) of the hiring schools had more than 500 business majors, while 63 percent had fewer than 500 business students. Respondents will, of course, be further scrutinized in the next three chapters.

TABLE 1-1

Survey Response Levels by State and Region

	Number of Schools Contacted	Number of Schools Responding to Questionnaire	Number of Schools Hiring of those Responding	Number of AACSB Accredited Schools Responding
Total for Southern Region	816	674	396	60
Alabama	56	44	24	4
Arkansas	28	26	12	2
District of Columbia	14	7	6	1
Florida	70	53	29	7
Georgia	62	52	41	6
Kentucky	31	26	21	1
Louisiana	27	25	23	6
Mississippi	43	34	17	3
North Carolina	113	97	39	3
Oklahoma	41	36	19	3
South Carolina	53	37	21	2
Tennessee	57	51	31	3
Texas	127	106	66	12
Virginia	66	59	34	6
West Virginia	28	21	13	1

CHAPTER 2

DEMAND FOR NEW BUSINESS DOCTORATES IN THE SOUTH

Doctoral candidates looking to the completion of their degrees typically ask two questions: Will I be able to find a teaching position in my academic area? If I can, where and at what type of school will I find the job?

Administrators seeking to recruit new doctoral faculty have complementary questions: Where do I turn to find prospective job candidates? What types of schools, in what regions and states, will be competing with me to hire these graduates? Is ours the only school with needs in particular areas, or are they common to others?

The purpose of this chapter is to address these and many similar questions related to the academic demand for new business doctorates in the Southern Region. Broken down into three major sections, Chapter 2 first examines the projected 1977-81 demand for new doctoral faculty, by specialization, in the Southern Region and its states. The chapter then analyzes the types of schools (private versus public, accredited versus non-accredited, large versus small business enrollments) where hiring needs are expected to exist. Finally, the sources in and out of the South where Regional schools find their faculty recruits

are tabulated and discussed. We begin with a Regional and state-by-state presentation of the estimated demand for new Ph.D.'s and D.B.A.'s.

Projected Demand in Southern States

The anticipated academic demand for new Ph.D.'s in business over the 1977-81 period, for the entire Southern Region, is presented in Table 2-1. These data are based on the responses of 396 business and economics administrators to Part C of the survey questionnaire (shown in Chapter 1 as Figure 1-1). Respondents were asked to use their best judgment to estimate new faculty needs in each academic area for each year; future enrollments, budget trends, and retirement and attrition ratios were some of the factors to be considered in doing so. Since the 1977-78 demand was well determined for most schools at the time the survey was conducted, in May-June, 1977, we expect that these first-year figures are highly accurate. As may be anticipated in any projections of perceived faculty demands, the level of accuracy in each succeeding year will not continue as high. If anything, however, administrative inputs into such forecasts tend to be of the conservative nature; and the 1979-80 and 1980-81 demand levels appear, we believe, to be lower than will be the actual case. This being the researchers' conjecture, we present the responses for discussion, with the caveat that demand through 1980 will likely remain at the approximate 1977-79 levels.

The highest four-year demand area is in accounting (as administrators might have anticipated), with 23.6 percent of the 3,320 projected positions in that field. Management is the second highest demand area, followed closely by economics, finance, and marketing. Almost ten percent of the Southern Region's needs are in the quantitative methods area, with another 7.7 percent in general business. Tables 2-2 through 2-16 illustrate these demands on a state-by-state basis.

TABLE 2-1

Demand for New Doctoral Business Faculty in the Southern Region

AREA OF SPECIALIZATION	ACADEMIC YEAR				Area Total	% in Each Area
	1977- 1978	1978- 1979	1979- 1980	1980- 1981		
General Business	68	31	58	50	257	7.7
Accounting	252	221	176	133	782	23.6
Economics	117	128	109	81	435	13.1
Finance (Including Insurance and Real Estate)	117	135	100	75	427	12.9
Management (Including Personnel, Policy, Production, and Organizational Behavior)	173	158	125	106	562	16.9
Marketing (Including Transportation)	125	128	98	78	429	12.9
Quantitative Methods (Including Operations Research, Statistics, Information Systems)	83	89	89	60	321	9.7
Other (Business Education, International Business)	41	24	23	19	107	3.2
Yearly Total	976	964	778	602	3,320	100.0

Alabama

With greatest hiring needs in management and accounting, the state of Alabama's projected demand of 240 new doctorates makes it the sixth largest Ph.D. consumer in the Southern Region. The state houses 6.9 percent of the 816 colleges and universities in the Region and demands about 7.2 percent of Southern hires over the 1977-81 period (see Table 2-2).

TABLE 2-2

Alabama's Demand for New Doctoral Business Faculty

AREA OF SPECIALIZATION	ACADEMIC YEAR				Area Total
	1977- 1978	1978- 1979	1979- 1980	1980- 1981	
General Business	6	6	3	1	16
Accounting	17	11	11	10	49
Economics	7	8	12	7	34
Finance (Including Insurance and Real Estate)	6	9	8	5	28
Management (Including Personnel, Policy, Production, and Organizational Behavior)	16	13	11	12	52
Marketing (Including Transportation)	10	10	8	9	37
Quantitative Methods (Including Operations Research, Statistics, Information Systems)	4	7	10	2	23
Other (Business Education, International Business)	0	1	0	0	1
Yearly Total	66	65	63	46	240

Arkansas

Arkansas' demand for new business doctorates is about 4.5 percent of the total in the Region, with the largest number needed in the accounting field. The state houses 3.4 percent of all schools in the South (see Table 2-3).

TABLE 2-3

Arkansas' Demand for New Doctoral Business Faculty

AREA OF SPECIALIZATION	ACADEMIC YEAR				Area Total
	1977- 1978	1978- 1979	1979- 1980	1980- 1981	
General Business	4	7	7	8	26
Accounting	10	10	8	6	34
Economics	6	7	8	2	23
Finance (Including Insurance and Real Estate)	3	1	3	6	13
Management (Including Personnel, Policy, Production, and Organizational Behavior)	4	6	1	8	19
Marketing (Including Transportation)	2	6	6	3	17
Quantitative Methods (Including Operations Research, Statistics, Information Systems)	4	1	3	1	9
Other (Business Education, International Business)	1	3	2	3	9
Yearly Total	34	41	38	37	150

District of Columbia

Requiring only 34 new doctorates over the four year period, the District of Columbia accounts for about 1.0 percent of the Region's hiring needs and 1.7 percent of its colleges. The area of highest demand in the District is again accounting (Table 2-4).

TABLE 2-4

District of Columbia's Demand for New Doctoral Business Faculty

AREA OF SPECIALIZATION	ACADEMIC YEAR				Area Total
	1977- 1978	1978- 1979	1979- 1980	1980- 1981	
General Business	0	3	0	1	4
Accounting	2	5	1	2	10
Economics	0	2	0	0	2
Finance (Including Insurance and Real Estate)	2	1	1	0	4
Management (Including Personnel, Policy, Production, and Organizational Behavior)	1	4	2	0	7
Marketing (Including Transportation)	0	2	1	0	3
Quantitative Methods (Including Operations Research, Statistics, Information Systems)	1	1	2	0	4
Other (Business Education, International Business)	0	0	0	0	0
Yearly Total	6	18	7	3	34

Florida

Florida projects a demand for 298 new Ph.D.'s, about 9.0 percent of the Southern total. The state houses 8.6 percent of all schools in the Region; about 23 percent of its projected needs are in the accounting field (Table 2-5).

Georgia

Georgia's biggest demand area is also accounting. The state contains 7.6 percent of all colleges in the Region and makes up 8.6 percent of total demand (Table 2-6).

TABLE 2-5

Florida's Demand for New Doctoral Business Faculty

AREA OF SPECIALIZATION	ACADEMIC YEAR				Area Total
	1977- 1978	1978- 1979	1979- 1980	1980- 1981	
General Business	8	4	2	2	16
Accounting	25	19	15	9	68
Economics	13	8	12	5	38
Finance (Including Insurance and Real Estate)	8	16	9	8	41
Management (Including Personnel, Policy, Production, and Organizational Behavior)	17	12	13	9	51
Marketing (Including Transportation)	11	12	8	7	38
Quantitative Methods (Including Operations Research, Statistics, Information Systems)	9	8	8	4	29
Other (Business Education, International Business)	6	4	4	3	17
Yearly Total	97	83	71	47	298

TABLE 2-6

Georgia's Demand for New Doctoral Business Faculty

AREA OF SPECIALIZATION	ACADEMIC YEAR				Area Total
	1977- 1978	1978- 1979	1979- 1980	1980- 1981	
General Business	5	9	5	6	25
Accounting	19	18	16	12	65
Economics	10	13	8	6	37
Finance (Including Insurance and Real Estate)	8	12	11	5	36
Management (Including Personnel, Policy, Production, and Organizational Behavior)	11	11	15	9	46
Marketing (Including Transportation)	10	11	11	4	36
Quantitative Methods (Including Operations Research, Statistics, Information Systems)	6	11	10	8	35
Other (Business Education, International Business)	2	1	0	2	5
Yearly Total	71	86	76	52	285

Kentucky

The state of Kentucky projects hiring needs for 37 new accounting doctorates, with high demands also in economics, finance, and management. It houses 3.8 percent of the Region's schools and expects 4.5 percent of the South's hiring needs (Table 2-7).

TABLE 2-7

Kentucky's Demand for New Doctoral Business Faculty

AREA OF SPECIALIZATION	ACADEMIC YEAR				Area Total
	1977-1978	1978-1979	1979-1980	1980-1981	
General Business	2	2	2	2	8
Accounting	9	9	12	7	37
Economics	9	6	7	1	23
Finance (Including Insurance and Real Estate)	6	9	6	3	24
Management (Including Personnel, Policy, Production, and Organizational Behavior)	11	6	6	2	25
Marketing (Including Transportation)	4	7	4	1	16
Quantitative Methods (Including Operations Research, Statistics, Information Systems)	4	4	4	1	13
Other (Business Education, International Business)	1	0	1	1	3
Yearly Total	46	43	42	18	149

Louisiana

Containing only 3.3 percent of all colleges in the South, Louisiana estimates a demand for 199 new Ph.D.'s over the 1977-81 period (6.0 percent of all demand). Accounting comprises about one-quarter of the state's doctoral needs (Table 2-8).

TABLE 2-8

Louisiana's Demand for New Doctoral Business Faculty

AREA OF SPECIALIZATION	ACADEMIC YEAR				Area Total
	1977- 1978	1978- 1979	1979- 1980	1980- 1981	
General Business	5	5	6	2	18
Accounting	12	13	16	9	50
Economics	9	10	5	4	28
Finance (Including Insurance and Real Estate)	9	10	6	3	28
Management (Including Personnel, Policy, Production, and Organizational Behavior)	6	9	5	4	24
Marketing (Including Transportation)	8	9	0	3	20
Quantitative Methods (Including Operations Research, Statistics, Information Systems)	5	4	3	5	17
Other (Business Education, International Business)	8	3	3	0	14
Yearly Total	62	63	44	30	199

Mississippi

Mississippi's largest demand areas are accounting, finance, and management. The state houses 5.3 percent of all colleges in the South and needs 4.4 percent of new doctoral hires (Table 2-9).

North Carolina

The second largest hiring state in the Region, North Carolina has a projected four-year demand for 329 new Ph.D.'s, 9.9 percent of those sought in the South. It contains 13.8 percent of all colleges in the South, however (Table 2-10).

TABLE 2-9

Mississippi's Demand for New Doctoral Business Faculty

AREA OF SPECIALIZATION	ACADEMIC YEAR				Area Total
	1977- 1978	1978- 1979	1979- 1980	1980- 1981	
General Business	3	4	2	3	12
Accounting	11	11	9	4	35
Economics	2	4	4	7	17
Finance (Including Insurance and Real Estate)	4	7	5	7	23
Management (Including Personnel, Policy, Production, and Organizational Behavior)	7	4	6	6	23
Marketing (Including Transportation)	5	3	3	7	18
Quantitative Methods (Including Operations Research, Statistics, Information Systems)	4	1	6	5	16
Other (Business Education, International Business)	2	0	1	0	3
Yearly Total	38	34	36	39	147

TABLE 2-10

North Carolina's Demand for New Doctoral Business Faculty

AREA OF SPECIALIZATION	ACADEMIC YEAR				Area Total
	1977- 1978	1978- 1979	1979- 1980	1980- 1981	
General Business	9	7	6	9	31
Accounting	30	25	13	14	82
Economics	19	13	10	7	49
Finance (Including Insurance and Real Estate)	12	12	7	10	41
Management (Including Personnel, Policy, Production, and Organizational Behavior)	20	10	12	9	51
Marketing (Including Transportation)	14	14	8	6	42
Quantitative Methods (Including Operations Research, Statistics, Information Systems)	7	7	7	4	25
Other (Business Education, International Business)	3	2	2	1	8
Yearly Total	114	90	65	60	329

Oklahoma

With about one-third of its projected needs for 108 new doctorates in the area of accounting, Oklahoma seeks 3.2 percent of all Southern hires and contains 5.0 percent of its schools (Table 2-11).

TABLE 2-11

Oklahoma's Demand for New Doctoral Business Faculty

AREA OF SPECIALIZATION	ACADEMIC YEAR				Area Total
	1977-1978	1978-1979	1979-1980	1980-1981	
General Business	0	3	1	0	4
Accounting	16	6	8	5	35
Economics	5	5	2	2	14
Finance (Including Insurance and Real Estate)	3	2	1	1	7
Management (Including Personnel, Policy, Production, and Organizational Behavior)	5	7	3	3	18
Marketing (Including Transportation)	6	4	4	1	15
Quantitative Methods (Including Operations Research, Statistics, Information Systems)	1	4	0	1	6
Other (Business Education, International Business)	3	2	2	2	9
Yearly Total	39	33	21	15	108

South Carolina

South Carolina's primary needs are forecast for the accounting, management, and economics areas. Although the state houses 6.5 percent of all Southern schools, its demand for business Ph.D.'s is only 4.2 percent of the Region's total (Table 2-12).

TABLE 2-12

South Carolina's Demand for New Doctoral Business Faculty

AREA OF SPECIALIZATION	ACADEMIC YEAR				Area Total
	1977- 1978	1978- 1979	1979- 1980	1980- 1981	
General Business	4	5	2	1	12
Accounting	10	10	6	6	32
Economics	8	6	5	6	25
Finance (Including Insurance and Real Estate)	2	5	3	1	11
Management (Including Personnel, Policy, Production, and Organizational Behavior)	9	5	6	6	26
Marketing (Including Transportation)	4	6	2	4	16
Quantitative Methods (Including Operations Research, Statistics, Information Systems)	4	4	2	2	12
Other (Business Education, International Business)	1	1	1	2	5
Yearly Total	42	42	27	28	139

Tennessee

Twenty-three percent of Tennessee's estimated demand for 240 new Ph.D.'s are in the accounting field. The state's total demand comprises 7.2 percent of the entire Region's; it houses 7.0 percent of the Region's colleges (Table 2-13).

TABLE 2-13

Tennessee's Demand for New Doctoral Business Faculty

AREA OF SPECIALIZATION	ACADEMIC YEAR				Area Total
	1977- 1978	1978- 1979	1979- 1980	1980- 1981	
General Business	5	6	6	3	20
Accounting	19	19	8	10	56
Economics	8	11	10	8	37
Finance (Including Insurance and Real Estate)	7	7	7	2	23
Management (Including Personnel, Policy, Production, and Organizational Behavior)	14	16	6	7	43
Marketing (Including Transportation)	11	10	9	4	34
Quantitative Methods (Including Operations Research, Statistics, Information Systems)	6	9	6	2	23
Other (Business Education, International Business)	2	1	0	1	4
Yearly Total	72	79	52	37	240

Texas

The largest consumer of new business doctorates, Texas anticipates a demand for 623 Ph.D.'s, twice that of the next largest hiring state, North Carolina. Accounting (162 positions) and management (107 positions) faculty are the state's greatest needs. Texas contains 15.6 percent of the South's colleges, and projects a demand for 18.8 percent of all new hires in the area (Table 2-14).

TABLE 2-14

Texas' Demand for New Doctoral Business Faculty

AREA OF SPECIALIZATION	ACADEMIC YEAR				Area Total
	1977-1978	1978-1979	1979-1980	1980-1981	
General Business	14	11	13	6	44
Accounting	46	48	39	29	162
Economics	12	19	16	15	62
Finance (Including Insurance and Real Estate)	26	27	21	15	89
Management (Including Personnel, Policy, Production, and Organizational Behavior)	34	31	22	20	107
Marketing (Including Transportation)	24	22	18	17	81
Quantitative Methods (Including Operations Research, Statistics, Information Systems)	15	16	16	17	64
Other (Business Education, International Business)	10	2	2	0	14
Yearly Total	181	176	147	119	623

Virginia

Also a major hiring state, Virginia has equally high projected demands in the fields of accounting and management (51 in each over the four-year period). It has 8.1 percent of the colleges in the South, and registers 8.6 percent of the demand for new Ph.D.'s (Table 2-15).

West Virginia

With demands for 91 new doctorates (2.7 percent of the Regional total), West Virginia projects its greatest needs in management and accounting. The state houses 3.4 percent of all schools in the South (Table 2-16).

TABLE 2-15

Virginia's Demand for New Doctoral Business Faculty

AREA OF SPECIALIZATION	ACADEMIC YEAR				Area Total
	1977- 1978	1978- 1979	1979- 1980	1980- 1981	
General Business	3	6	0	6	15
Accounting	19	13	13	6	51
Economics	7	10	10	9	36
Finance (Including Insurance and Real Estate)	16	15	8	8	47
Management (Including Personnel, Policy, Production, and Organizational Behavior)	14	18	11	8	51
Marketing (Including Transportation)	11	11	11	11	44
Quantitative Methods (Including Operations Research, Statistics, Information Systems)	9	9	8	4	30
Other (Business Education, International Business)	1	4	5	3	13
Yearly Total	80	86	66	55	287

TABLE 2-16

West Virginia's Demand for New Doctoral Business Faculty

AREA OF SPECIALIZATION	ACADEMIC YEAR				Area Total
	1977- 1978	1978- 1979	1979- 1980	1980- 1981	
General Business	0	3	3	0	6
Accounting	7	4	2	4	17
Economics	4	6	0	2	12
Finance (Including Insurance and Real Estate)	3	2	4	1	10
Management (Including Personnel, Policy, Production, and Organizational Behavior)	4	6	6	3	19
Marketing (Including Transportation)	5	1	5	1	12
Quantitative Methods (Including Operations Research, Statistics, Information Systems)	4	3	2	4	13
Other (Business Education, International Business)	1	0	0	1	2
Yearly Total	28	25	22	16	91

Summary of State Demand Areas

One final display of state hiring demands, Table 2-17, summarizes what was pointed out over and over again above. In all but two states (Alabama and West Virginia), the demand for new accounting Ph.D.'s exceeds all other specializations. Management is second highest in eleven of the fifteen states in the Southern Region, with economics, marketing, and finance following closely together as the next greatest areas of need.

Students and administrators interpreting these demand levels should, of course, be aware that the data presented above represent academic (that is, college and university) demand only. Almost 17 percent of all business doctorates seek or find employment in business or government, a point to be addressed in more detail in Chapter 4.

TABLE 2-17

**High Demand Academic Specializations for New Doctorates,
By State, 1977-81**

<u>State</u>	<u>Highest Demand Area</u>	<u>Second Highest Demand Area</u>	<u>Third Highest Demand Area</u>
Entire Southern Region	Accounting	Management	Economics
Alabama	Management	Accounting	Marketing
Arkansas	Accounting	General Business	Economics
District of Columbia	Accounting	Management	Quantitative Methods, General Business, Finance tie
Florida	Accounting	Management	Finance
Georgia	Accounting	Management	Economics
Kentucky	Accounting	Management	Finance
Louisiana	Accounting	Economics, Finance tie	-
Mississippi	Accounting	Management, Finance tie	-
North Carolina	Accounting	Management	Economics
Oklahoma	Accounting	Management	Marketing
South Carolina	Accounting	Management	Economics
Tennessee	Accounting	Management	Economics
Texas	Accounting	Management	Finance
Virginia	Management, Accounting tie	-	Finance
West Virginia	Management	Accounting	Quantitative Methods

Source: Tables 2-1 through 2-16.

Demand for New Doctorates in Different Types of Schools

Different types of colleges and universities have different kinds of hiring needs. Large schools of business tend to have a greater need for specialists in areas such as quantitative methods and finance than do smaller schools. Accredited business colleges are especially aware of AACSB requirements for doctoral coverage of accounting courses. Some smaller schools seek Ph.D. generalists capable of teaching a spectrum of business courses. The three tables presented in this section address the questions of demand by categorizing schools into the following: (1) accredited by AACSB versus non-accredited; (2) public versus private control; and (3) larger (namely, those with more than 500 business majors) versus smaller (less than 500 business students). These tables illustrate an often great difference in attitude and needs in the various categories of institutions.

Accredited versus Non-accredited Schools

Table 2-18 compares the projected demand in 60 schools which have AACSB-accredited business programs to that in 614 non-accredited colleges.¹ The first thing that we note is that although there are more than ten times as many non-accredited schools in the Southern Region as accredited ones, that only 63 percent of total demand is in the former group. Accredited schools obviously comprise a critical sector of anticipated openings for new business doctorates.

¹Twelve out of the sixty AACSB-accredited schools, incidentally, received their accreditation within the 1976-77 period.

In the area of quantitative methods, for example, the four-year demand for 147 Ph.D.'s in accredited schools is almost as great as that of 174 in non-accredited colleges. Accounting and finance doctorates are also in greater demand, proportionately, in accredited schools than in the non-accredited category. Doctorates in general business, however, are sought almost exclusively in non-accredited colleges, another sign that AACSB schools require a significantly higher degree of specialization and hence, only a small number of generalists.

TABLE 2-18

Demand for New Business Doctorates in AACSB-accredited and Non-accredited Schools in the Southern Region

A. Demand in 60 Schools with AACSB-accredited Programs

AREA OF SPECIALIZATION	ACADEMIC YEAR				Area Total
	1977-1978	1978-1979	1979-1980	1980-1981	
General Business	7	5	5	6	23
Accounting	103	84	64	52	303
Economics	43	39	32	34	148
Finance (Including Insurance and Real Estate)	60	58	44	33	195
Management (Including Personnel, Policy, Production, and Organizational Behavior)	63	60	48	41	212
Marketing (Including Transportation)	55	44	32	35	166
Quantitative Methods (Including Operations Research, Statistics, Information Systems)	38	42	42	25	147
Other (Business Education, International Business)	12	11	10	9	42
Yearly Total	381	343	277	235	1,236

TABLE 2-18 (cont'd.)

B. Demand in 614 Non-accredited Schools

AREA OF SPECIALIZATION	ACADEMIC YEAR				Area Total
	1977- 1978	1978- 1979	1979- 1980	1980- 1981	
General Business	61	76	53	44	234
Accounting	149	137	112	81	479
Economics	74	89	77	47	287
Finance (Including Insurance and Real Estate)	57	77	56	42	232
Management (Including Personnel, Policy, Production, and Organizational Behavior)	110	98	77	65	350
Marketing (Including Transportation)	70	84	66	43	263
Quantitative Methods (Including Operations Research, Statistics, Information Systems)	45	47	47	35	174
Other (Business Education, International Business)	29	13	13	10	65
Yearly Total	595	621	501	367	2,084

Public versus Private Control

Table 2-19 indicates that the largest number of new business doctorates needed over the 1977-81 period will be for the 404 public colleges in the Region. Although they comprise only 60 percent of the South's schools, public institutions are estimated to demand over 78 percent of new hires. Private schools have especially low demands in quantitative methods, marketing, and finance relative to their overall hiring needs. Private schools do have a large demand for general business doctorates, an indication that among their ranks are many non-accredited, and probably smaller size, institutions.

TABLE 2-19

**Demand for New Business Doctorates in Public and Private Colleges
in the Southern Region**

A. Demand in 404 Public Colleges

AREA OF SPECIALIZATION	ACADEMIC YEAR				Area Total
	1977- 1978	1978- 1979	1979- 1980	1980- 1981	
General Business	39	41	34	32	146
Accounting	199	172	140	104	615
Economics	82	89	85	63	319
Finance (Including Insurance and Real Estate)	98	108	85	71	362
Management (Including Personnel, Policy, Production, and Organizational Behavior)	129	123	99	86	437
Marketing (Including Transportation)	107	104	77	67	355
Quantitative Methods (Including Operations Research, Statistics, Information Systems)	68	73	74	51	266
Other (Business Education, International Business)	38	22	23	19	102
Yearly Total	760	732	617	493	2,602

TABLE 2-19 (cont'd.)

B. Demand in 270 Private Colleges

AREA OF SPECIALIZATION	ACADEMIC YEAR				Area Total
	1977- 1978	1978- 1979	1979- 1980	1980- 1981	
General Business	29	40	24	18	111
Accounting	53	49	36	29	167
Economics	35	39	24	18	116
Finance (Including Insurance and Real Estate)	19	27	15	4	65
Management (Including Personnel, Policy, Production, and Organizational Behavior)	44	35	26	20	125
Marketing (Including Transportation)	18	24	21	11	74
Quantitative Methods (Including Operations Research, Statistics, Information Systems)	15	16	15	9	55
Other (Business Education, International Business)	3	2	0	0	5
Yearly Total	216	232	161	109	718

Large versus Small Business Enrollments

One final table deals with the demand for new business doctorates in schools with "larger" and "smaller" business enrollments. Enrollments are defined as the number of students majoring in business or taking a concentration in business courses. The breakdown into two categories is based on the sum of bachelors, masters, and doctoral students in business at each school. Those with more than 500 business students are labeled as larger schools, and those with fewer than 500 as smaller ones. Junior colleges are classified as smaller schools regardless of the number of associates' degree students enrolled. These choices are arbitrary, but serve as a simple guide for classifying and comparing schools.

Table 2-20 indicates that the 148 larger schools in the Region project over 69 percent of the South's four-year demand; the 248 smaller colleges seek 1,016 new business doctorates, or 31 percent of the total demand. Smaller schools have lower than expected demands in finance, marketing and quantitative methods. But again, they dominate in needs for general business doctorates--and are also significant users of Ph.D.'s in economics.

TABLE 2-20

**Demand for New Business Doctorates in Schools with Large and Small
Business Enrollments**

A. Demand in 148 Schools with more than 500 Business Majors

AREA OF SPECIALIZATION	ACADEMIC YEAR				Area Total
	1977- 1978	1978- 1979	1979- 1980	1980- 1981	
General Business	19	20	16	14	69
Accounting	179	153	124	91	547
Economics	70	70	65	56	262
Finance (Including Insurance and Real Estate)	102	102	81	65	350
Management (Including Personnel, Policy, Production, and Organizational Behavior)	122	120	90	71	403
Marketing (Including Transportation)	103	95	69	63	330
Quantitative Methods (Including Operations Research, Statistics, Information Systems)	68	71	72	46	257
Other (Business Education, International Business)	30	21	20	16	87
Yearly Total	693	652	537	422	2,304

TABLE 2-20 (cont'd.)

B. Demand in 248 Schools with less than 500 Business Majors

AREA OF SPECIALIZATION	ACADEMIC YEAR				Area Total
	1977- 1978	1978- 1979	1979- 1980	1980- 1981	
General Business	49	61	42	36	188
Accounting	73	68	52	42	235
Economics	47	58	44	25	174
Finance (Including Insurance and Real Estate)	15	33	19	10	77
Management (Including Personnel, Policy, Production, and Organizational Behavior)	51	38	35	35	159
Marketing (Including Transportation)	22	33	29	15	99
Quantitative Methods (Including Operations Research, Statistics, Information Systems)	15	18	17	14	64
Other (Business Education, International Business)	11	3	3	3	20
Yearly Total	283	312	241	180	1,016

Where the South Finds its Doctorates

It is well known that Ph.D.'s as a group are a highly mobile segment of the population. Business professors, being in somewhat greater demand than other academics, are especially given to relocating themselves. This section addresses the subject of migratory patterns of new business doctorates--and in particular presents an analysis of where Southern schools find their new faculty recruits.

In the tables that follow, sources of Ph.D.'s attracted to the South are tabulated by origin region of the United States. Seven classifications of areas are employed (overlapping AACSB definitions when possible) as follows:

Southern Region - Alabama, Arkansas, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia

New England Region - Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont

Mid-Atlantic Region - Delaware, Maryland, New Jersey, New York, and Pennsylvania

Mid-Continent East Region - Illinois, Indiana, Michigan, Minnesota, Ohio, and Wisconsin

Midwest Region - Iowa, Kansas, Missouri, Montana, Nebraska, North Dakota, South Dakota, Utah, and Wyoming

West Region - Alaska, Arizona, California, Colorado, Hawaii, Idaho, Nevada, New Mexico, Oregon, and Washington

Foreign - All universities outside of the United States.

Recruiting by State

Table 2-21 shows where the entire Southern Region and its individual states turn to recruit new business Ph.D.'s. The data presented are based on the responses of all schools that have hired a new doctorate in business over the past three years (1974-77). The 1,196 new hires represent a sample which we believe is representative of the South's recent recruitment patterns; the actual number of Ph.D.'s hired by Southern colleges directly from graduate school during that three-year period was 1,582.²

As seen in the table's left hand column, 62 percent of all new doctorates hired by Southern Region schools were graduated from universities within the Region. The remaining 38 percent of hires were well distributed throughout other areas of the nation, with a special emphasis on the Mid-Continent East region (an area which includes many of the Big Ten schools). Only 1 percent of the South's new faculty members were recruited from foreign schools.

State-by-state patterns are seen to differ significantly and may raise several interesting points of discussion. For one thing, we may note that "deep-South" states such as Alabama (74%), Arkansas (86%), Louisiana (70%), Mississippi (73%), and South Carolina (81%), hire a very high percentage of their new Ph.D.'s from within the South. Border states, such as Kentucky (52%), Oklahoma (52%), Virginia (50%),

²The sample of 1,196 is derived from Part D of the questionnaire (shown in Figure 1-1) and represents each school's ten most recent new hires.

TABLE 2-21

Where Southern States Found New Business Faculty
(A Sample of 1,196 Doctorates Hired, 1974-77)

Southern Region State Hiring Ph.D.

Region of United States Where Faculty Member Received Ph.D.	Entire Southern Region	Alabama	Arkansas	District of Columbia	Florida	Georgia	Kentucky	Louisiana	Mississippi	North Carolina	Oklahoma	South Carolina	Tennessee	Texas	Virginia	West Virginia
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
South	62	74	86	35	41	74	52	70	73	58	52	87	68	60	50	54
New England	4	3	0	14	3	5	3	3	2	4	5	1	0	4	9	0
Mid Atlantic	7	4	2	31	19	3	1	0	2	9	5	6	7	6	10	13
Mid- Continent East	16	7	2	17	20	14	26	15	10	19	26	5	14	14	22	29
Midwest	5	10	10	0	10	2	10	4	8	4	7	1	7	4	4	4
West	5	1	0	3	7	1	8	8	5	6	5	0	2	11	4	0
Foreign	1	1	0	0	0	1	0	0	0	0	0	0	2	1	1	0
Total Percent	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Total Number of Ph.D.'s Hired	1196	73	43	29	106	91	62	78	40	113	44	67	85	247	94	24

West Virginia (54%), and the District of Columbia (35%) tend, on the other hand, to recruit greater numbers from outside the South, usually from the regions adjacent to them. The District of Columbia, for example, hired 31 percent of its new business doctorates in the sample from the Mid-Atlantic states, another 17 percent from the Mid-Continent East and 14 percent from New England. Oklahoma, Kentucky, and West Virginia were other big recruiters of Mid-Continent East graduates (26%, 26%, and 29%, respectively).

Florida, which often views itself as an Eastern, rather than a Southern state, was also a relatively low recruiter (41%) of Southern Region Ph.D.'s. Its two next largest sources were Mid-Atlantic (19%) and Mid-Continent East (20%) graduates.

Texas, the biggest hiring state within the South, drew 40 percent of its faculty from outside the Southern Region, relying heavily on the West (11%) and the Mid-Continent East (14%) as important sources of new faculty.

Hiring of Southern Ph.D.'s by Southern Schools

Table 2-22 expands the first line of Table 2-21 in that it provides a detailed examination of the intra-South migrations of new Ph.D.'s. These 62 percent (or 741 Ph.D.'s) of the 1,196 graduates surveyed who received their doctorates from Southern universities remained in the Region to teach at Southern schools. Their state origins (that is, where they received their Ph.D.'s) and state destinations (where they went to teach) are presented in absolute numbers in the table.

TABLE 2-22

Distribution of Doctoral Hires Within The South
(A Sample of 741 New Business Faculty Hired, 1974-77)

State Hiring the New Doctorate

State Where Faculty Member Received Ph.D.	Alabama	Arkansas	District of Columbia	Florida	Georgia	Kentucky	Louisiana	Mississippi	North Carolina	Oklahoma	South Carolina	Tennessee	Texas	Virginia	West Virginia
Alabama	4	1	0	1	2	2	2	2	1	0	1	5	1	2	1
Arkansas	6	12	0	1	8	5	3	0	1	1	5	5	12	1	2
District of Columbia	0	0	7	0	2	0	0	0	1	0	0	0	3	9	0
Florida	5	0	0	14	4	1	3	1	7	0	3	1	6	5	0
Georgia	9	0	0	10	37	3	5	1	11	1	16	9	6	3	1
Kentucky	0	2	0	1	1	11	1	1	2	0	0	3	1	1	3
Louisiana	5	1	1	2	3	2	20	3	4	1	0	3	15	3	0
Mississippi	6	8	0	1	1	2	6	14	3	0	2	7	3	1	1
North Carolina	1	1	0	5	1	1	2	2	11	0	7	1	3	4	1
Oklahoma	2	5	1	1	1	0	1	3	1	14	1	3	8	4	0
South Carolina	2	0	0	1	2	2	2	0	9	0	14	3	1	1	0
Tennessee	0	2	0	2	0	2	0	0	0	0	4	9	0	2	1
Texas	10	4	0	3	3	1	8	2	10	5	4	5	87	2	0
Virginia	4	1	0	1	2	0	2	0	5	1	1	4	3	9	0
West Virginia	0	0	1	0	0	0	0	0	0	0	0	0	0	0	3
Total Number Hired	54	37	10	43	67	32	55	29	66	23	58	58	149	47	13

By examining the diagonal of Table 2-22, we see that a large number (about 36%) of Southern graduates choose to remain and teach in the state where they received their doctorate. Eighty-seven of the 149 Ph.D.'s hired by Texas from the Region, for example, received their degree from a Texas university. In Georgia, 37 of the 67 faculty hired were graduates of universities in that state, and in Mississippi 14 of the 29 were from Mississippi. It is also interesting to note that Arkansas sent as many of its graduates to Texas as it hired for its own needs.

Hiring Patterns and Accreditation

One of the hypotheses put forth at the outset of this research study was that larger schools, such as those holding AACSB accreditation, would reflect hiring patterns differing from the Region as a whole. We supposed that accredited colleges would, because of standards and competition, seek a more diversified faculty composition (and hence more non-South Ph.D.'s) than smaller, non-accredited schools.

Tables 2-23 and 2-24 suggest that this theory holds true for the Southern Region as a whole and in most of its states, but not in all cases. Table 2-23 shows, for example, that 51 percent of the 464 recent hires by accredited Southern schools came from within the South. On the other hand, 69 percent of the 732 non-accredited school recruits were graduated from Southern universities, implying that hiring by these colleges is on a more regional and local basis. Moreover, 23 percent of the new hires of accredited schools came

TABLE 2-23

Where AACSB-Accredited Southern Schools Found New Business
Faculty, By State

(A Sample of 464 Doctorates Hired, 1974-77)

State Hiring the New Ph.D.

Region of United States Where Faculty Member Received Ph.D.	Southern Region	Alabama	Arkansas	District of Columbia	Florida	Georgia	Kentucky	Louisiana	Mississippi	North Carolina	Oklahoma	South Carolina	Tennessee	Texas	Virginia	West Virginia
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Southern Region	51	67	92	10	44	56	22	58	69	71	21	65	75	40	43	50
New England	6	3	0	20	2	9	11	5	0	9	11	5	0	7	13	0
Mid-Atlantic	9	3	0	50	16	0	11	0	0	10	11	15	6	7	11	17
Mid-Continent East	23	15	0	20	25	29	22	25	8	10	47	15	13	29	24	33
Midwest	5	12	8	0	9	3	0	2	9	0	5	0	3	5	3	0
West	6	0	0	0	4	3	34	10	15	0	5	0	3	12	4	0
Foreign	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
Total Percent	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Total Number of Hires	464	34	12	10	68	34	9	40	13	21	19	20	32	100	46	6
Number of Schools in Sample	60	4	2	1	7	6	1	6	3	3	3	2	3	12	6	1

TABLE 2-24

Where Non-Accredited Southern Schools Found New Business Faculty,
By State
(A Sample of 732 Doctorates Hired, 1974-77)

State Hiring the New Ph.D.

Region of U.S. Where Faculty Member Received Ph.D.	South Region	Alabama	Arkansas	District of Columbia	Florida	Georgia	Kentucky	Louisiana	Mississippi	North Carolina	Oklahoma	South Carolina	Tennessee	Texas	Virginia	West Virginia
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
South	69	80	84	47	34	84	57	84	74	55	76	96	64	74	56	56
New England	2	2	0	11	5	2	2	0	4	2	0	0	0	2	4	0
Mid-Atlantic	6	6	3	21	24	5	0	3	0	9	0	2	8	5	9	11
Mid-Continent East	11	0	3	16	11	5	26	5	11	22	12	0	15	5	21	28
Midwest	6	8	10	0	13	2	11	5	7	5	8	2	9	2	6	5
West	5	2	0	5	13	0	4	3	4	7	4	0	2	11	4	0
Foreign	1	2	0	0	0	2	0	0	0	0	0	0	2	1	0	0
Total Percent	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Total Number of Hires	732	39	31	19	38	57	53	38	27	92	25	47	53	147	48	18
Number of Schools in Sample	614	40	24	6	46	46	25	19	31	94	33	35	48	94	53	20

from university sources in the Mid-Continent East. The comparable figure for non-accredited schools, from Table 2-24, is only 11 percent.

For some of the more extreme state cases we note, by examining both tables, that Georgia's accredited colleges hired only 56 percent from within the South, while its non-accredited schools hired 84 percent of new faculty from the South. These same figures for Kentucky are 22 percent versus 57 percent; for Louisiana, 58 percent versus 84 percent; for Oklahoma, 21 percent versus 76 percent; for South Carolina, 65 percent versus 96 percent; and for Texas, 40 percent versus 74 percent. This pattern did not hold in Arkansas, Florida, North Carolina, or Tennessee, however.

Many other recruiting idiosyncrasies may be noted by a careful analysis of these tables. One should take care, of course, to observe the small sample sizes in several of the states.

Hiring Patterns in Academic Specializations

One final table is presented in this chapter to document the hiring practices of Southern colleges and universities. Table 2-25 breaks down the South's recruiting, in each academic specialization, by area of the United States supplying Ph.D.'s.

The top row again indicates the percentage of doctorates who graduated from Southern universities and remain in the South. Overall, 62 percent (as we saw earlier) of all hires are products of the South itself. This figure differs somewhat by academic area, ranging from a low of 58 percent in management to 67 percent in accounting.

TABLE 2-25

Where Southern States Found New Business Faculty,
By Academic Area
(A Sample of 1,196 Doctorates Hired, 1974-77)

Academic Specialization

Region of U.S. Where Faculty Member Received Ph.D.	General Business	Accounting	Economics	Finance	Management	Marketing	Quantitative Methods	Other	All Areas Total
	%	%	%	%	%	%	%	%	%
Southern Region	65	67	59	64	58	61	64	59	62
New England	2	2	4	1	7	4	3	5	4
Mid-Atlantic	5	6	9	8	7	8	7	3	7
Mid-Continent East	7	12	17	22	16	18	14	15	16
Midwest	21	6	7	1	5	4	4	8	5
West	0	7	4	4	7	5	8	10	6
Total Percent	100	100	100	100	100	100	100	100	100
Total Number of Ph.D.'s Hired	43	212	224	155	242	150	109	61	1196

The Mid-Continent East is still the second most productive source of new recruits (16 percent, overall), especially in the field of finance (supplying 22 percent of all new Ph.D.'s hired by the Southern Region).

The discussion of demand for business doctorates in the South is concluded momentarily as we now turn to the topic of collegiate hiring practices. In Chapter 4, dealing with the supply of doctorates, we shall once again reflect upon some of the demand figures presented above.

CHAPTER 3

RECRUITING AND HIRING PRACTICES OF COLLEGES AND UNIVERSITIES IN THE SOUTH

A topic important to both administrators, such as deans or department chairmen, and to students nearing completion of their doctorates is the pattern of recruitment and hiring of new faculty in the nation's colleges and universities. Administrators, for example, take interest in knowing the time of year at which competitors who are recruiting new Ph.D. graduates make their Fall contract offers. It is also useful to them to understand the methods by which other schools find and recruit future faculty. Doctoral candidates, as well, can benefit from more complete information as to how they should seek out the jobs they want at the types of institution they want--and when they should expect to complete their searches with job acceptances.

One part of our study addresses itself to questions such as the above--and its findings are presented in this chapter, which deals with the recruiting and hiring practices of higher educational institutions in the South. The five tables presented on the following pages summarize the responses of the 396 institutions that plan to hire new doctoral graduates in business within the next four years. The information gathered is analyzed in several ways: (1) for all Southern schools,

(2) for public colleges versus private colleges, (3) for AACSB-accredited versus non-accredited schools, and (4) for schools with large numbers of business enrollments versus those with smaller numbers.

Sources Used to Recruit New Business Faculty

Administrators' rankings of the three most productive recruiting sources used in their respective schools to locate new business doctorates are the basis for Tables 3-1, 3-2, 3-3, and 3-4. For each of the seven potential sources listed in these tables, an "Index of Productivity" is computed, based on the responses given. Indices range from a maximum possible value of 3.0 (highest in productivity) to a minimum possible value of 0.0 (lowest in productivity). The far right columns of the tables also provide the percent of time that each technique was rated as the most productive.

Table 3-1, summarizing the results for the entire Southern Region, indicates that personal contacts of faculty members (including administrators) are, by far, the most highly rated source of recruiting new faculty. Thirty-three percent of all responding schools consider personal contacts their most productive technique. This is followed by advertising (in journals and magazines) and by conference recruiting as the next two most useful hiring sources.

Several interesting patterns and differences appear as these data are reexamined by categorizing the types of schools responding. In Table 3-2, for example, public colleges and universities are compared to private Southern schools. Both rank personal contacts of faculty

TABLE 3-1

Sources Used to Recruit New Faculty
in Southern Schools

<u>Recruiting Method</u>	<u>Index of Productivity*</u>	<u>Percent of Time Technique Rated Most Productive</u>
Conference recruiting	1.0	16%
Personal contacts of faculty	1.7	33%
Advertising in journals, magazines	1.1	19%
Letter to wide list of potential schools	0.8	15%
Letter to small, selected list of doctorate producing schools	0.6	8%
Unsolicited applications	0.5	5%
Other	0.2	3%
Number of responding schools	396	

*The highest rating possible (3.0) would indicate the recruiting method was selected as most productive by every responding school. A low rating (close to 0.0) indicates that the method was seldom chosen as one of the three most important recruitment techniques.

TABLE 3-2

Recruiting Sources Used in
Public and Private Schools

Recruiting Method	Index of Productivity*		Percent of Time Technique Rated Most Productive	
	Public Schools	Private Schools	Public Schools	Private Schools
Conference recruiting	1.2	0.8	19%	11%
Personal contacts of faculty	1.6	1.7	31%	36%
Advertising in journals, magazines	1.1	1.0	18%	20%
Letter to wide list of potential schools	0.9	0.6	19%	9%
Letter to small, se- lected list of doc- torate producing schools	0.5	0.7	5%	12%
Unsolicited applications	0.5	0.5	5%	5%
Other	<u>0.1</u>	<u>0.2</u>	2%	5%
Number of responding schools	223	173		

*The highest rating possible (3.0) would indicate the recruiting method was selected as most productive by every responding school. A low rating (close to 0.0) indicates that the method was seldom chosen as one of the important recruitment techniques.

as their most useful recruiting method. But we note that whereas conference recruiting and letters to a wide list of potential schools are each ranked first 19 percent of the time by public schools, private schools rate these methods highest only 11 and 9 percent of the time, respectively.

In the case of AACSB-accredited versus non-accredited schools (Table 3-3), we see an even wider and more important discrepancy. The 60 accredited business schools rely heavily not only on personal contacts, but on conference recruiting as well. Seventy-eight percent of the administrators of accredited colleges rated these two recruiting sources as their most productive. Although personal contacts is again the most important hiring source in the 335 non-accredited schools, advertising and announcement letters to a wide list of schools are the two next highest regarded sources (20 percent and 17 percent, respectively). This, of course, brings out a valuable fact to doctoral candidates seeking positions. Should they be interested in employment at an AACSB-accredited school, their best means of contacting hiring institutions is to attend academic conferences in their field. On the other hand, if they are not concerned with accreditation status, it would pay to follow advertisements placed in academic journals and newspapers such as the Chronicle of Higher Education.

Table 3-4 contains one final analysis of recruiting methods--this time by comparing institutions which have more than 500 business majors (our "larger school" category) to those with fewer than 500 business

TABLE 3-3

Recruiting Sources Used in
AACSB-Accredited and Non-accredited Schools

Recruiting Method	Index of Productivity*		Percent of Time Technique Rated Most Productive	
	Accredited	Non-accredited	Accredited	Non-accredited
Conference re- cruiting	1.9	0.9	39%	12%
Personal contacts of faculty	2.0	1.6	39%	32%
Advertising in journals, maga- zines	0.8	1.1	10%	20%
Letter to wide list of potential schools	0.3	0.9	3%	17%
Letter to small, se- lected list of doc- torate producing schools	0.7	0.6	5%	9%
Unsolicited applications	0.2	0.6	2%	6%
Other	<u>0.1</u>	<u>0.2</u>	2%	3%
Number of respond- ing schools	60	336		

*The highest rating possible (3.0) would indicate the recruiting method was selected as most productive by every responding school. A low rate (close to 0.0) indicates that the method was seldom chosen as one of the three most important recruitment techniques.

TABLE 3-4

Recruiting Sources Used in
Large and Small Business Schools

Recruiting Method	Index of Productivity*		Percent of Time Technique Rated Most Productive	
	Over 500 Majors	Under 500 Majors	Over 500 Majors	Under 500 Majors
Conference recruiting	1.6	0.6	28%	8%
Personal contacts of faculty	1.8	1.6	36%	32%
Advertising in journals, magazines	0.9	1.1	15%	21%
Letter to wide list of potential schools	0.5	0.9	10%	17%
Letter to small, se- lected list of doc- torate producing schools	0.6	0.6	5%	10%
Unsolicited applications	0.3	0.7	3%	7%
Other	<u>0.1</u>	<u>0.2</u>	3%	3%
Number of responding schools	148	248		

*The highest rating possible (3.0) would indicate the recruiting method was selected as most productive by every responding school. A low rating (close to 0.0) indicates that the method was seldom chosen as one of the three most important recruitment techniques.

students ("smaller schools"). As with the case of accredited versus non-accredited schools, conference recruiting was selected as most productive more than three times as often by larger schools as by smaller schools. Personal contacts was still the most highly rated technique by both classes of size. Smaller schools, however, also rely heavily upon letters to a wide list of schools (rated first 17 percent of the time) and letters to the doctoral producing schools (rated most productive by 10 percent of the respondents). Again, it appears that a doctoral candidate seeking employment at a smaller business school need not expend his efforts attending conferences--unless, of course, he uses the meeting as an opportunity to greatly expand his personal contacts with faculty and department chairmen.

Seasonal Hiring Patterns

Different schools extend their contract offers to new faculty at different times of the year. A few are able to locate and hire staff for the Fall semester as early as October or November of the previous year. Many tend to contract in Spring; some wait as late as July or August. About one-quarter of all schools in the South vary in hiring and have no set time schedule in general.

Table 3-5 presents a complete summary of seasonal hiring patterns of new business doctorates for the 396 Southern Region colleges currently seeking faculty. Overall, we see in the first column that about one-half of hiring offers are extended in early Spring (26%) or late Spring (26%). Only 4 percent of all schools are

TABLE 3-5

Time of Year Hiring Offers Extended

Time of Year	All Schools	Control		AACSB		Size of Business Unit	
		Public	Private	Accredi- ted	Non- Accredited	>500 majors	≤500 majors
Fall before Winter vacation	4%	2%	6%	10%	3%	5%	3%
Winter	11%	13%	8%	31%	7%	18%	6%
Early Spring before Easter	26%	25%	28%	29%	25%	36%	20%
Late Spring	26%	29%	23%	7%	30%	13%	34%
Summer	8%	9%	5%	0%	9%	3%	11%
Varies - no set time in general	$\frac{25\%}{100\%}$	$\frac{22\%}{100\%}$	$\frac{30\%}{100\%}$	$\frac{23\%}{100\%}$	$\frac{26\%}{100\%}$	$\frac{25\%}{100\%}$	$\frac{26\%}{100\%}$
Total responses	396	223	173	60	336	148	248

able to make their hiring decisions in the Fall, before the Winter vacation; another 11 percent hire in Winter and 8 percent in Summer.

Public and private schools do not differ significantly in their timing, but AACSB accreditation status has a tremendous effect upon seasonal hiring patterns. Whereas 10 percent of the accredited Southern schools hire in Fall and another 31 percent in Winter, only 3 percent and 7 percent of non-accredited colleges extend offers in Fall and Winter, respectively. Similarly, only 7 percent of accredited schools recruit in late Spring and none at all in Summer. This compares to 30 percent of the non-accredited schools that hire in late Spring. And for the doctoral candidate who doesn't enter the job market until Summer, there is still chance of finding a teaching position at those non-accredited schools (9 percent of them) that usually do not hire until Summer.

The pattern at large business schools somewhat resembles that at accredited colleges. The bulk of the contracts offered (36 percent) are in early Spring, with only 3 percent of hiring at large schools taking place as late as Summer. Smaller schools generally do not start signing candidates in Fall or Winter, but instead commit in early Spring (20 percent), late Spring (34 percent), or Summer (11 percent).

CHAPTER 4

THE SUPPLY OF BUSINESS DOCTORATES IN THE SOUTH

It is fair to say that there is much confusion among the public, as well as in the academic community, about the supply and demand conditions of academic doctorates; and there is no small amount of ignorance about the subject. One view holds that there is a gross oversupply of doctorates in the United States, and that the situation is growing worse. The media, on occasion, have made much to do about the number of Ph.D.'s underemployed and driving cabs, tending bars, and painting houses. It is true that many academic areas are characterized by an oversupply, and that some areas will probably produce more than the optimum number of Ph.D.'s in the next five years. However, it is also true that in some academic areas there is a relative shortage, and there may be an undersupply for the next five years. One major purpose of this chapter is to show the projected supply of new business doctorates, by academic area and by state, in the Southern Region over the next four years.

Aggregate Supply in the South

The supply data presented in this chapter are derived from the responses of the forty doctorate producing schools of business and

departments of economics within the Southern Region. Our survey shows that 2,176 business doctorates will be produced in the South in the 1977-1981 period (see Table 4-1). It should be noted that the projected number of business doctorates demanded in the academic sector of the Southern Region in the same period is 3,320, about 53 percent more than the number being produced (see Table 4-2, repeated from Chapter 2). From this, and from past evidence, one may conclude that the South will continue to be a significant net importer of business doctorates for academic purposes in all but one academic area. In the case of economics, projected doctoral output exceeds the projected faculty needs of the Region; but since government and industry needs must also be met, an actual oversupply may or may not occur.

TABLE 4-1

Supply of New Business Doctorates in The Southern Region

AREA OF SPECIALIZATION	ACADEMIC YEAR				Area Total
	1977-1978	1978-1979	1979-1980	1980-1981	
General Business	7	6	7	9	29
Accounting	98	93	95	111	397
Economics	153	155	162	165	635
Finance (Including Insurance and Real Estate)	68	65	67	76	276
Management (Including Personnel, Policy, Production, and Organizational Behavior)	77	78	81	91	327
Marketing (Including Transportation)	62	56	55	66	239
Quantitative Methods (Including Operations Research, Statistics, Information Systems)	38	53	61	57	209
Other (Business Education, International Business)	15	17	15	17	64
Yearly Total	518	523	543	592	2,176

TABLE 4-2

Demand For New Doctoral Business Faculty
in The Southern Region

AREA OF SPECIALIZATION	ACADEMIC YEAR				Area Total
	1977- 1978	1978- 1979	1979- 1980	1980- 1981	
General Business	68	81	58	50	257
Accounting	252	221	176	133	782
Economics	117	128	109	81	435
Finance (Including Insurance and Real Estate)	117	135	100	75	427
Management (Including Personnel, Policy, Production, and Organizational Behavior)	173	158	125	106	562
Marketing (Including Transportation)	125	128	98	78	429
Quantitative Methods (Including Operations Research, Statistics, Information Systems)	83	89	89	60	321
Other (Business Education, International Business)	41	24	23	19	107
Yearly Total	976	964	778	602	3,320

The fact that supply and demand ratios differ significantly by academic area is illustrated in Table 4-3. Summarizing the four-year totals seen in Tables 4-1 and 4-2, the table also provides a demand-to-supply ratio. In the case of the "all fields" total, for example, it appears that there will be 1.53 jobs in the Region available per Ph.D. graduate from the Region.

Demand and Supply in Each Academic Area

The Region is seen to be an especially low producer of doctorates in the area of general business. Only twenty-nine general business Ph.D.'s are anticipated over the survey period (about 1 percent

TABLE 4-3

A Comparison of Four Year Doctorate Demands and Supplies
in The Southern Region

	Projected 1977-1981 Total <u>Demand</u>	Projected 1977-1981 Total <u>Supply</u>	Demand to Supply Ratio (Col. 1/Col. 2)
General Business	257	29	8.86
Accounting	782	397	1.97
Economics	435	635	0.68
Finance	427	276	1.55
Management	562	327	1.72
Marketing	429	239	1.79
Quantitative Methods	321	209	1.54
Other	107	64	1.67
Total - All Fields	3,320	2,176	1.53

of total doctorate production)--an interesting phenomenon, given the projected demand for 257 graduates. This may be the result of an increasing interest on the part of junior colleges and small four-year schools that do not seek specialists in finance, management, or quantitative methods, but simply well-rounded Ph.D.'s who can teach

introductory courses in several areas. Given the lessening demand in some of the academic specializations, it may be worthwhile for doctoral candidates seeking teaching positions to consider degree programs which permit them to become business generalists.

About 18 percent of total projected production of Southern doctorates is in the field of accounting. The 397 graduates meet only about one-half of the projected regional demand. Given that there is a nationwide shortage of accounting Ph.D.'s in academia, this shortfall in the Region takes on added significance.

A large part of the doctoral production in the South will be in the field of economics. The estimated output of 635 Ph.D.'s (29 percent of total Regional doctoral production), is about 46 percent greater than the South's projected academic demand over the next four years.

In the area of finance, which includes insurance and real estate, only 276 doctorates will be produced between 1977 and 1981, slightly more than one-half the academic number required. The field of management is estimated to produce 327 doctorates (about 15 percent of total Ph.D.'s graduated), a figure which is substantially below the 562 demanded in the Region. Although a projected 239 doctorates (11 percent of the total doctoral output) will be in marketing, that number is still 190 less than the South's academic demand for marketing Ph.D.'s. The Southern Region will also be a relatively low producer in the field of quantitative methods--estimated at 209 (or about 10

percent of the Region's total doctoral production). Needs in this area are projected to be 321 graduates.

A Comparison with the U.S. Doctoral Mix

How does the doctoral production in various academic disciplines in the South compare to recent national figures? That answer lies in Table 4-4, which contains percentage breakdowns, by field, of Ph.D.'s graduated or expected to graduate.¹

We see several interesting differences between the U.S. and Southern doctoral distributions. Nationally, 18.7 percent of 1975-76 Ph.D. graduates and 16.0 percent of 1976-77 graduates were in the field of economics. In the South, however, 29.5 percent of 1977-78 graduates and 27.9 percent of 1980-81 graduates are anticipated to be in that field. On the other hand, the national average for production of quantitative methods doctorates is in the 16.8 to 17.9 percent range whereas only 7.3 to 9.6 percent of Southern Region Ph.D.'s receive degrees in the quantitative area. The data show that the South, which has traditionally lagged behind the rest of the nation in this area, is gradually expanding its doctoral output (from 7.3 percent in 1977-78 to 9.6 percent in 1980-81) in quantitative methods.

One may also note that the Southern Region is a proportionately higher producer of doctorates in accounting than the U.S., although the U.S. projections will indeed continue to rise. Because of the nationwide shortage in accounting, even Ph.D. graduates in this field from relatively

¹Please note that the figures presented, these being the only data available, are drawn from a period covering several years, and hence, must be viewed with the caveat that national and regional patterns can and do change within relatively short time periods.

TABLE 4-4

Percentage Mix of Doctoral Degrees by Academic Area
in The United States and The South

	Actual 1975-1976 For United States ²	Estimated 1976-1977 For United States ²	Projected 1977-1978 For South ³	Projected 1980-1981 For South ³
General Business ¹	-	-	1.4%	1.5%
Accounting	10.6%	15.0%	18.9%	18.8%
Economics	18.7%	16.0%	29.5%	27.9%
Finance	16.5%	17.8%	13.1%	12.8%
Management	21.2%	22.5%	14.9%	15.4%
Marketing	10.8%	8.9%	12.0%	11.1%
Quantitative Methods	17.9%	16.8%	7.3%	9.6%
Other	<u>4.3%</u>	<u>3.1%</u>	<u>2.9%</u>	<u>2.9%</u>
	100.0%	100.0%	100.0%	100.0%
Number of Doctorates Graduated	1,177	1,430	518	592

¹General business is not listed as an area of concentration in the AACSB national surveys.

²Source: AACSB Enrollment Trends Survey. ³Source: Table 4-1.

unprestigious Southern universities are easily placed in highly regarded business schools inside and outside the Region.

Projected Doctoral Production by State

With two exceptions--Texas and West Virginia--the production of business doctorates in the Southern Region is relatively balanced among the states. Texas will stand out in the production of business doctorates in the next four years, producing 581, or almost 27 percent of the total output for the Region. On the opposite extreme, West Virginia will account for less than 1 percent of the total output of business Ph.D.'s, producing an estimated 14 doctorates--all in economics. Among the remaining twelve states and the District of Columbia, four-year output of graduates ranges from somewhat less than 3 percent of the total, in Kentucky, to about 9 percent of the total production in North Carolina.

Let us review these data, state by state, in Tables 4-5 through 4-19 that follow.

Texas

The data in Table 4-5 show that Texas will clearly dominate the production of business doctorates in the Southern Region over the next four years--and will do so in all areas but economics. Although North Carolina will graduate 132 economics Ph.D.'s compared to Texas' 120, Texas will supply 41 percent of all Southern doctorates in general business, 36 percent of all Ph.D.'s in accounting, 26 percent of all Ph.D.'s in finance, 27 percent of all Ph.D.'s in

management, 18 percent of all Ph.D.'s in marketing, and about 36 percent of all quantitative methods graduates. The projected demands for new business doctorates in Texas are, nevertheless, greater than the state's expected supply in all academic areas, except accounting and quantitative methods (see Chapter 2). This implies that if the state were a self-contained academic unit it would be a net exporter of Ph.D.'s in accounting and quantitative methods, and a net importer in general business, economics, finance, management, and marketing. Its outputs, however, are expected to grow each year over the four-year period.

TABLE 4-5

Texas' Projected Supply of
Business Doctorates, by Academic Area

AREA OF SPECIALIZATION	ACADEMIC YEAR				Area Total
	1977- 1978	1978- 1979	1979- 1980	1980- 1981	
General Business	2	3	3	4	12
Accounting	36	37	34	35	142
Economics	27	32	30	31	120
Finance (Including Insurance and Real Estate)	20	17	18	18	73
Management (Including Personnel, Policy, Production, and Organizational Behavior)	22	17	25	25	89
Marketing (Including Transportation)	13	14	15	18	60
Quantitative Methods (Including Operations Research, Statistics, Information Systems)	13	18	22	22	75
Other (Business Education, International Business)	0	4	3	3	10
Yearly Total	133	142	150	156	581

Alabama

It is projected that Alabama will produce 3.9 percent (or 84) of the total business doctorates in the Region in the period 1977-81. Its principal area of output is marketing (23 graduates), which will account for about 27 percent of the state's total doctoral production. Alabama's output of 19 Ph.D.'s in quantitative methods make it the fourth largest producer in that academic area in the South. The state's doctoral output will more than double (from 13 to 28) over the next four years, but it will still be a net importer in all academic areas.

TABLE 4-6

Alabama's Projected Supply of
Business Doctorates, by Academic Area

AREA OF SPECIALIZATION	ACADEMIC YEAR				Area Total
	1977- 1978	1978- 1979	1979- 1980	1980- 1981	
General Business	0	0	0	0	0
Accounting	2	3	4	4	13
Economics	2	3	3	4	12
Finance (Including Insurance and Real Estate)	1	1	2	2	6
Management (Including Personnel, Policy, Production, and Organizational Behavior)	1	3	3	4	11
Marketing (Including Transportation)	4	5	6	8	23
Quantitative Methods (Including Operations Research, Statistics, Information Systems)	3	5	5	6	19
Other (Business Education, International Business)	0	0	0	0	0
Yearly Total	13	20	23	28	84

Arkansas

It is estimated that Arkansas will produce about 100 doctorates in business over the next four years, about 4.6 percent of the Region's total business output (see Table 4-7). Arkansas' doctoral production is estimated at five per year in each of the following areas: accounting, economics, finance, management and marketing. The state will produce no doctorates in either general business or quantitative methods through 1981, and will be a net Ph.D. importer in all areas, except marketing.

TABLE 4-7

Arkansas' Projected Supply of Business Doctorates,
by Academic Area

AREA OF SPECIALIZATION	ACADEMIC YEAR				Area Total
	1977- 1978	1978- 1979	1979- 1980	1980- 1981	
General Business	0	0	0	0	0
Accounting	5	5	5	5	20
Economics	5	5	5	5	20
Finance (Including Insurance and Real Estate)	5	5	5	5	20
Management (Including Personnel, Policy, Production, and Organizational Behavior)	5	5	5	5	20
Marketing (Including Transportation)	5	5	5	5	20
Quantitative Methods (Including Operations Research, Statistics, Information Systems)	0	0	0	0	0
Other (Business Education, International Business)	0	0	0	0	0
Yearly Total	25	25	25	25	100

District of Columbia

The District of Columbia is expected to produce 146 doctorates in business in the period 1977-81, or 6.7 percent of the Region's total (see Table 4-8). Its principal area of production, with 34 Ph.D.'s, will be management. It should also be noted that D.C. will be the South's third largest producer of doctorates in quantitative methods, but will be a net importer of business Ph.D.'s in all academic areas.

TABLE 4-8.

District of Columbia's Projected Supply of
Business Doctorates, by Academic Area

AREA OF SPECIALIZATION	ACADEMIC YEAR				Area Total
	1977- 1978	1978- 1979	1979- 1980	1980- 1981	
General Business	5	3	4	5	17
Accounting	3	2	2	4	11
Economics	3	6	8	9	26
Finance (Including Insurance and Real Estate)	6	3	2	2	13
Management (Including Personnel, Policy, Production, and Organizational Behavior)	8	9	6	11	34
Marketing (Including Transportation)	2	1	1	2	6
Quantitative Methods (Including Operations Research, Statistics, Information Systems)	6	7	6	4	23
Other (Business Education, International Business)	4	3	4	5	16
Yearly Total	37	34	33	42	146

Florida

The state of Florida will produce more than one and one-half times as many doctorates in economics (40) as in any other academic discipline (see Table 4-9). Four areas--accounting, economics,

finance, and management--will account for more than 86 percent of the total production of 132 Ph.D.'s in Florida. The state will be a relatively small producer of doctorates in marketing and quantitative methods and will be a net importer in all academic areas.

TABLE 4-9

Florida's Projected Supply of Business
Doctorates, by Academic Area

AREA OF SPECIALIZATION	ACADEMIC YEAR				Area Total
	1977- 1978	1978- 1979	1979- 1980	1980- 1981	
General Business	0	0	0	0	0
Accounting	7	5	6	9	27
Economics	10	10	10	10	40
Finance (Including Insurance and Real Estate)	7	3	3	8	21
Management (Including Personnel, Policy, Production, and Organizational Behavior)	6	6	6	8	26
Marketing (Including Transportation)	5	3	1	3	12
Quantitative Methods (Including Operations Research, Statistics, Information Systems)	1	1	2	2	6
Other (Business Education, International Business)	0	0	0	0	0
Yearly Total	36	28	28	40	132

Georgia

Georgia is projected to be a significant producer of doctorates in each academic area (except general business), and to rank second only to Texas in total output in the Region (see Table 4-10). Its

two major areas of doctoral production will be finance and management, which account for about 44 percent of the state's total output. Despite its productivity, Georgia is anticipated to be a net importer of business doctorates in all areas, except marketing.

TABLE 4-10

Georgia's Projected Supply of
Business Doctorates, by Academic Area

AREA OF SPECIALIZATION	ACADEMIC YEAR				Area Total
	1977- 1978	1978- 1979	1979- 1980	1980- 1981	
General Business	0	0	0	0	0
Accounting	7	7	8	8	30
Economics	10	8	7	7	32
Finance (Including Insurance and Real Estate)	10	12	11	13	46
Management (Including Personnel, Policy, Production, and Organizational Behavior)	12	12	11	10	45
Marketing (Including Transportation)	7	3	4	4	18
Quantitative Methods (Including Operations Research, Statistics, Information Systems)	3	4	6	4	17
Other (Business Education, International Business)	6	5	3	3	17
Yearly Total	55	51	50	49	205

Kentucky

Kentucky will not be a significant producer of business doctorates for the Southern Region over the next four years; its total output is projected to account for about 2.7 percent of all Ph.D.'s (see Table 4-11). The state's primary product is economists, and it will be a net importer in all academic areas.

TABLE 4-11

Kentucky's Projected Supply of Business
Doctorates, by Academic Area

AREA OF SPECIALIZATION	ACADEMIC YEAR				Area Total
	1977- 1978	1978- 1979	1979- 1980	1980- 1981	
General Business	0	0	0	0	0
Accounting	2	3	3	3	11
Economics	5	5	5	5	20
Finance (Including Insurance and Real Estate)	2	2	2	2	8
Management (Including Personnel, Policy, Production, and Organizational Behavior)	1	2	2	2	7
Marketing (Including Transportation)	2	2	2	2	8
Quantitative Methods (Including Operations Research, Statistics, Information Systems)	1	1	1	1	4
Other (Business Education, International Business)	0	0	0	0	0
Yearly Total	13	15	15	15	58

Louisiana

It is projected that Louisiana will account for about 5.3 percent of the total doctoral output from the South (see Table 4-12). Economics will be its principal area of doctoral production in the next four years, yielding about 30 percent of the state's total output. Three areas--accounting, economics, and management--will account for about 74 percent of the total Louisiana production. Yearly doctoral production will be relatively stable, and the state will be a net importer of business Ph.D.'s in all academic areas, except economics.

TABLE 4-12

Louisiana's Projected Supply of Business
Doctorates, by Academic Area

AREA OF SPECIALIZATION	ACADEMIC YEAR				Area Total
	1977- 1978	1978- 1979	1979- 1980	1980- 1981	
General Business	0	0	0	0	0
Accounting	7	7	7	7	28
Economics	10	6	10	9	35
Finance (Including Insurance and Real Estate)	2	2	3	3	10
Management (Including Personnel, Policy, Production, and Organizational Behavior)	5	6	6	6	23
Marketing (Including Transportation)	2	3	2	2	9
Quantitative Methods (Including Operations Research, Statistics, Information Systems)	1	2	3	2	8
Other (Business Education, International Business)	1	1	0	1	3
Yearly Total	28	27	31	30	116

Mississippi

Over the next four years Mississippi will produce about 79 doctorates, or 3.6 percent of the Southern Region's total. Its projected output in the areas of accounting, economics, finance, management, and marketing is moderate, while production in general business is expected to be zero and in quantitative methods minimal. The state will be a net importer of business doctorates in all areas.

TABLE 4-13

Mississippi's Projected Supply of Business Doctorates, by Academic Area

AREA OF SPECIALIZATION	ACADEMIC YEAR				Area Total
	1977- 1978	1978- 1979	1979- 1980	1980- 1981	
General Business	0	0	0	0	0
Accounting	4	5	4	5	18
Economics	3	3	3	3	12
Finance (Including Insurance and Real Estate)	3	3	3	4	13
Management (Including Personnel, Policy, Production, and Organizational Behavior)	4	4	4	4	16
Marketing (Including Transportation)	5	4	4	4	17
Quantitative Methods (Including Operations Research, Statistics, Information Systems)	1	0	1	1	3
Other (Business Education, International Business)	0	0	0	0	0
Yearly Total	20	19	19	21	79

North Carolina

North Carolina will be one of the Region's major producers of business doctorates (195), accounting for about 9 percent of the total doctoral production over the next four years (see Table 4-14). However, over two-thirds of the state's doctoral graduates will be concentrated in economics, this being about 21 percent of the total production of Ph.D.'s in economics in the whole Region. North Carolina produces relatively few doctorates in quantitative methods, management, marketing, or finance, and the state will be a net importer of Ph.D.'s in all areas, except economics. Its non-economics output, we note, is expected to increase from ten in 1977-78 to twenty-five in 1980-81.

TABLE 4-14

North Carolina's Projected Supply of
Business Doctorates, by Academic Area

AREA OF SPECIALIZATION	ACADEMIC YEAR				Area Total
	1977- 1978	1978- 1979	1979- 1980	1980- 1981	
General Business	0	0	0	0	0
Accounting	4	3	5	9	21
Economics	33	33	33	33	132
Finance (Including Insurance and Real Estate)	2	3	5	5	15
Management (Including Personnel, Policy, Production, and Organizational Behavior)	1	2	2	3	8
Marketing (Including Transportation)	3	3	1	6	13
Quantitative Methods (Including Operations Research, Statistics, Information Systems)	0	1	3	2	6
Other (Business Education, International Business)	0	0	0	0	0
Yearly Total	43	45	49	58	195

Oklahoma

Oklahoma is projected to produce about 133 business doctorates over the next four years, or about 6.1 percent of the total production in the Southern Region (see Table 4-15). Its major outputs will be in two areas--accounting and economics--which together make up about 58 percent of the state's total. But it should also be noted that Oklahoma will produce four or five doctorates in business education annually. The state will be a net importer of business Ph.D.'s in all fields but economics and finance.

TABLE 4-15

Oklahoma's Projected Supply of
Business Doctorates, by Academic Area

AREA OF SPECIALIZATION	ACADEMIC YEAR				Area Total
	1977- 1978	1978- 1979	1979- 1980	1980- 1981	
General Business	0	0	0	0	0
Accounting	11	7	7	8	33
Economics	9	11	10	10	40
Finance (Including Insurance and Real Estate)	2	2	2	2	8
Management (Including Personnel, Policy, Production, and Organizational Behavior)	6	3	3	3	15
Marketing (Including Transportation)	5	4	3	3	15
Quantitative Methods (Including Operations Research, Statistics, Information Systems)	1	2	1	0	4
Other (Business Education, International Business)	4	4	5	5	18
Yearly Total	38	33	31	31	133

South Carolina

About 5 percent of the total doctoral production in the Region is projected as South Carolina's output for the period 1977-81 (see Table 4-16). The state produces from five to eight doctorates in quantitative methods annually, the second largest source of quantitative methods Ph.D.'s in the Region. Doctoral production is projected to increase in each year, rising from twenty-three in 1978 to thirty in 1981. South Carolina will be a net importer of doctorates in all areas, except finance and quantitative methods.

TABLE 4-16

South Carolina's Projected Supply of
Business Doctorates, by Academic Area

AREA OF SPECIALIZATION	ACADEMIC YEAR				Area Total
	1977- 1978	1978- 1979	1979- 1980	1980- 1981	
General Business	0	0	0	0	0
Accounting	4	3	5	5	17
Economics	4	3	5	5	17
Finance (Including Insurance and Real Estate)	5	5	5	5	20
Management (Including Personnel, Policy, Production, and Organizational Behavior)	3	4	4	4	15
Marketing (Including Transportation)	2	3	4	4	13
Quantitative Methods (Including Operations Research, Statistics, Information Systems)	5	8	6	7	26
Other (Business Education, International Business)	0	0	0	0	0
Yearly Total	23	26	29	30	108

Tennessee

The state of Tennessee anticipates producing 105 doctorates in business over the next four years, or about 4.8 percent of the South's total (see Table 4-17). Fifty-eight percent of these graduates are in the area of economics. The state shows a slight increase in its output over the period, but will still be a net importer of business doctorates in all areas but economics.

TABLE 4-17

Tennessee's Projected Supply of Business Doctorates, By Academic Area

AREA OF SPECIALIZATION	ACADEMIC YEAR				Area Total
	1977- 1978	1978- 1979	1979- 1980	1980- 1981	
General Business	0	0	0	0	0
Accounting	3	3	3	3	12
Economics	14	14	15	16	59
Finance (Including Insurance and Real Estate)	1	1	1	2	5
Management (Including Personnel, Policy, Production, and Organizational Behavior)	1	2	2	2	7
Marketing (Including Transportation)	3	3	3	3	12
Quantitative Methods (Including Operations Research, Statistics, Information Systems)	1	2	3	4	10
Other (Business Education, International Business)	0	0	0	0	0
Yearly Total	23	25	27	30	105

Virginia

Virginia, producing 5.5 percent of Southern Region Ph.D.'s is a significant supplier of economists. Of the 120 doctorates projected for the state over the period of 1977-81, 47 percent will be in the field of economics. As a result the state will be a net importer of business doctorates in all areas, except economics.

TABLE 4-18

Virginia's Projected Supply of
Business Doctorates, by Academic Area

AREA OF SPECIALIZATION	ACADEMIC YEAR				Area Total
	1977- 1978	1978- 1979	1979- 1980	1980- 1981	
General Business	0	0	0	0	0
Accounting	3	3	2	6	14
Economics	14	14	14	14	56
Finance (Including Insurance and Real Estate)	2	6	5	5	18
Management (Including Personnel, Policy, Production, and Organizational Behavior)	2	3	2	4	11
Marketing (Including Transportation)	4	3	4	2	13
Quantitative Methods (Including Operations Research, Statistics, Information Systems)	2	2	2	2	8
Other (Business Education, International Business)	0	0	0	0	0
Yearly Total	27	31	29	33	120

West Virginia

West Virginia is forecast to produce in one field only, economics (Table 4-19). It supplies only 0.6 percent of the Region's graduates and is a net importer of business doctorates in all areas, except economics.

TABLE 4-19

West Virginia's Projected Supply of Business
Doctorates, by Academic Area

AREA OF SPECIALIZATION	ACADEMIC YEAR				Area Total
	1977- 1978	1978- 1979	1979- 1980	1980- 1981	
General Business	0	0	0	0	0
Accounting	0	0	0	0	0
Economics	4	2	4	4	14
Finance (Including Insurance and Real Estate)	0	0	0	0	0
Management (Including Personnel, Policy, Production, and Organizational Behavior)	0	0	0	0	0
Marketing (Including Transportation)	0	0	0	0	0
Quantitative Methods (Including Operations Research, Statistics, Information Systems)	0	0	0	0	0
Other (Business Education, International Business)	0	0	0	0	0
Yearly Total	4	2	4	4	14

Highlights of Doctoral Supply Analysis

Perhaps at this point it would be desirable to summarize some of the main features related to the projected supply of business Ph.D.'s in the South.

1. The Region's supply of business doctorates is projected to rise from 518 in 1977-78 to 592 in 1980-81, a 14 percent increase. About 35 percent of this change is accounted for by Texas, with another 40 percent by Tennessee and North Carolina. The principal increase, in percentage terms, will be in the quantitative methods area.

2. The Region will be a net importer of business doctorates, producing only about 65 percent of its estimated four-year needs. It will import in each academic area except economics; the economics supply will exceed demand by 46 percent.

3. Six hundred thirty-five Ph.D.'s in economics are projected to graduate from Southern universities over the next four years--approximately 29 percent of the Region's total doctoral output. Significantly, all but four states within the Region (those exceptions being Alabama, Georgia, Mississippi, and South Carolina) produce more doctorates in economics than in any other academic discipline. Two states, North Carolina and Texas, account for about 40 percent of the Region's total economics graduates.

4. About 8 percent (257) of the demand for business doctorates is in the field of general business, yet the South's total general business production in the period 1977-81 is estimated at only 29

graduates. Graduates in other academic areas may, of course, be able to accommodate some of this demand by agreeing to view and sell themselves as business generalists. The important point is that such a demand for general business Ph.D.'s does indeed exist.

5. In accounting, an area in which there has been a continuous national shortage, the South will produce only about one-half of its projected four-year demand. Universities in five states--Florida, Georgia, Louisiana, Oklahoma, and Texas--will produce 65 percent of the Region's total doctoral output in accounting, with Texas alone supplying 36 percent of the total.

6. The Region will be a major importer of doctorates in management, producing only about 59 percent of its projected needs. Two states--Texas and Georgia--account for 51 percent of the Southern supply over the next four years.

7. The region will produce about 65 percent of its projected needs in quantitative methods, with Texas alone producing 35 percent of the South's total output in this field.

8. Even though academic demand for business Ph.D.'s is projected to decline (by 38 percent) between 1977-81 and supply projected to increase, the Southern Region will still be a net importer through the next four years.

Doctorate Producing Universities

The preceding sections of this chapter have been addressed to the projected output of business doctorates in each Southern state.

This section takes a brief look at the recent outputs of each individual university within the Region.

Table 4-20 ranks the South's universities according to the number of business and economics doctorates graduated over the three-year period, 1974-1977. Within each category--large (more than fifty graduates over the period), medium (twenty-five to fifty graduates), and small (less than twenty-five graduates)--schools are again listed in rank order. Thus, the University of Texas was the South's largest producer of business and economics Ph.D.'s, George Washington University was second largest, the University of Arkansas was third largest, and so on.

A total of 1,112 doctoral graduates was produced by the Region's universities during the 1974-77 period. More than 50 percent of the students came from the group of the seven largest universities.²

Academic versus Non-academic Jobs for Ph.D.'s

It is a well-known fact that most Ph.D.'s find employment in colleges and universities. This is true for the arts and sciences, for engineering, for education, and it is true for business doctorates as well.

A sample of 267 business graduates in the South over the past three years indicates that 83 percent of them were first employed in educational institutions. Only 5 percent went to industry, with the

²The 1977-81 projected outputs for each of these schools are not presented for reasons of confidentiality.

TABLE 4-20

Universities Producing Doctorates in Business and Economics
in The South, 1974-1977

<u>Schools Which Graduated More Than 50 Ph.D.'s or D.B.A.'s</u>	<u>Schools Which Graduated Fewer Than 25 Ph.D.'s or D.B.A.'s</u>
University of Texas	Louisiana Tech University
George Washington University	University of Oklahoma
University of Arkansas	Louisiana State University
Georgia State University	University of Mississippi
Texas A & M University	University of Tennessee
University of Georgia	University of Virginia
University of North Carolina	University of Houston
<u>Schools Which Graduated Between 25 and 50 Ph.D.'s or D.B.A.'s</u>	Virginia Polytechnic Institute
University of Kentucky	Southern Methodist University
Florida State University	Catholic University
Oklahoma State University	Clemson University
North Texas State University	Tulane University
University of Florida	West Virginia University
University of Alabama	Rice University
Vanderbilt University	University of Texas (Arlington)
Duke University	Georgia Tech
University of South Carolina	Georgetown University
North Carolina State University	
Mississippi State University	
Texas Tech University	

other 12 percent going to government. Table 4-21 compares these figures with 1972 data for all fields as compiled by the Bureau of Labor Statistics.

The actual number of living persons holding doctorates in each field, followed by the percent of those employed in each job category, is shown in the table. Employment in educational institutions ranges from a high of 94.4 percent in the arts and humanities to a low of 56.3 percent in engineering and natural science.

When the sample data for business Ph.D.'s in the Southern Region are compared to those for business in the United States as a whole, the percent entering the academic world is remarkably close (83 percent versus 84 percent). Only 5 percent of Southern graduates were employed in industry, compared to 8.3 percent of all business graduates through 1972 in the United States, however. And fully 12 percent of the Southern graduates sampled went to government, versus 2.7 percent nationwide. The latter may be attributed to the fact that the District of Columbia is contained within the Southern Region, and its governmental agencies support and employ a large number of doctoral students from the surrounding universities.

TABLE 4-21

Employment of Doctorates in Education,
Industry, and Government, 1972

<u>Field</u>	<u>Actual Number</u>	<u>Percent In Educational Institutions</u>	<u>Percent In Industry and Business</u>	<u>Percent In Government</u>	<u>Percent In Other</u>
Engineering and Natural Science	161,700	56.3	27.6	9.5	6.6
Social Science and Psychology	63,800	73.9	4.1	12.7	9.3
Arts and Humanities	38,800	94.4	1.0	1.1	3.1
Education	58,300	88.5	1.0	5.7	4.8
Business and Commerce (U.S.)	5,400	84.0	8.3	2.7	5.0
Business and Economics (in Southern Region)	(Sample of 264)	83.0	5.0	12.0	0.0
Other Fields	6,700	72.3	1.8	3.6	22.3
All Fields	334,600	70.5	14.6	8.2	6.7

Source: Bureau of Labor Statistics from Doctorates Records File
of the National Academy of Science.

Where Doctoral Graduates Work

The Southern Region has been a net importer of business doctorates in the past and is projected to continue to be so in the future—even if it retains its entire supply of graduates for internal use. We know from past experience, of course, that not all graduates of Southern universities remain in the Region. The question of where they go to find work is answered in Table 4-22.

**Where Doctoral Graduates of Each Southern State
Went to Work, by Region, 1974-77**

Location of First Job	State in Which Ph.D. Was Earned														
	Entire Southern Region	Alabama	Arkansas	District of Columbia	Florida	Georgia	Kentucky	Louisiana	Mississippi	North Carolina	Oklahoma	South Carolina	Tennessee	Texas	Virginia
Southern Region	61%	80%	60%	36%	55%	62%	50%	83%	75%	55%	33%	83%	64%	50%	69%
New England	1%			7%											15%
Mid-Atlantic	6%	10%		21%		10%	10%	14%		4%		6%		7%	
Mid-Continent East	10%		10%	8%	20%	5%	20%		10%	18%		6%	18%	14%	
Midwest	7%		30%			5%	10%		10%		22%	5%		7%	16%
West	8%	10%			20%	9%	10%	3%	5%	9%	22%		9%	13%	
Foreign or Unknown	7%			28%	5%	9%				14%	23%		9%	9%	
Total Percentages	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Number of Ph.D.'s in Sample	264	10	10	14	20	21	10	30	20	22	9	18	11	56	13

Based on a sample of 264 (out of 1,112) graduates of Southern universities over the period 1974-77, we see that 61 percent chose to stay and work in the Region.³ Only about 1 percent of the South's Ph.D. graduates went to the New England region, while the remainder were somewhat equally distributed among the other major regions of the nation (with each region receiving 6 to 10 percent of the total).⁴

Table 4-22 shows another interesting phenomenon. Over 50 percent of the doctoral graduates from all but two states were employed in the South. Four "deep-South" states--Alabama, Louisiana, Mississippi, and South Carolina--placed 75 percent or more of their Ph.D.'s within the Region. On the opposite extreme, the Region retained only 33 and 36 percent, respectively, of the graduates of

³One-third of those graduates that remain in the South, incidentally, take positions within the same state as the university granting their degree.

⁴Regions, as in Chapter 2, are defined as follows:

Southern Region - Alabama, Arkansas, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia

New England Region - Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont

Mid-Atlantic Region - Delaware, Maryland, New Jersey, New York, and Pennsylvania

Mid-Continent East Region - Illinois, Indiana, Michigan, Minnesota, Ohio, and Wisconsin

Midwest Region - Iowa, Kansas, Missouri, Montana, Nebraska, North Dakota, South Dakota, Utah, and Wyoming

West Region - Alaska, Arizona, California, Colorado, Hawaii, Idaho, Nevada, New Mexico, Oregon, and Washington

Foreign - all universities outside of the United States.

the border states of Oklahoma and the District of Columbia. West Virginia, which graduated none of the students sampled, is not shown in the table.

There are probably three interrelated reasons for the small percentage of Ph.D. graduates of Southern business schools taking employment outside of the South. For one thing, the Region needs and consumes a significant number of graduates in its own universities and its other places of employment. Second, many graduates retain strong ties to the South and its climate and style of life, and make an effort to find employment in the Region. Finally, it may also be that universities in other regions of the United States consider the South an inferior recruiting ground for doctoral graduates in business.

Destination and Academic Disciplines

An analysis similar to the above is presented in Table 4-23. The table deals not with a state-by-state outmigration of business doctorates, but rather with the flow of graduates by academic specialization. The far right most column of the table's first row again indicates that, overall, 61 percent of the 264 graduates sampled remained in the Southern Region. Also shown is that the South consumed from 51 to 68 percent of its own output in all but two disciplines.

Regarding the two exceptions, we note that over 80 percent of the Ph.D.'s in quantitative methods remained in the Region and that only 30 percent of the doctorates in general business did so. The

TABLE 4-23

Where Doctoral Graduates of Each Academic
Discipline Went to Work, by Region, 1974-1977

(A Sample of 264 Graduates)

Location of First Job	Academic Area							Total of All Fields
	General Business	Accounting	Economics	Finance	Management	Marketing	Quantitative Methods	
Southern Region	30%	67%	55%	68%	60%	51%	81%	61%
New England			3%			3%		1%
Mid-Atlantic	30%	5%	10%		3%	5%	6%	6%
Mid-Continent East	10%	10%	9%	9%	14%	16%		10%
Midwest		8%	6%	9%	3%	8%	3%	6%
West		10%	5%	14%	9%	11%	6%	8%
Foreign or Unknown	30%		12%		11%	6%	4%	8%
Percent Totals	100%	100%	100%	100%	100%	100%	100%	100%
Number of Ph.D.'s in Sample	10	49	67	34	35	37	32	264

former case appears to be due to the very low level of output in years past, which created a strong need and demand for quantitative graduates in the South (and usually in the same state from which they graduated). The latter figure is probably due to the small sample size and may not be an accurate representation of the overall picture for Ph.D.'s in general business.

The South's doctoral graduates that leave the Region are divided unequally among the other parts of the United States in different disciplines, although it is obvious again that New England states are the least significant users of Southern graduates.

Increasing Doctoral Production in the South

Many questions concerning the demand and supply of Ph.D.'s in business have been addressed in this and the preceding two chapters of our report. Many others can be answered only by a much needed replication of this study on a nationwide basis.

One final and intriguing question remains, however, before this chapter is complete. Simply stated: Does the South produce its proportionate share of business doctorates? This is a provocative question and one with no definitive answer. An unequivocal yes or no is possible only if uniformly agreed upon criteria for determining an area's proper level of Ph.D. production are available.

All that can be said at this time is that the South, as one region of the United States, has been, is, and will be over the next four years a major net importer of business doctorates. In the authors'

opinion this implies that the Southern Region should, in the next decade, increase its output of doctorates. Furthermore, we think that this increase should be at least to the level where exports equal imports: namely, where the total production of Ph.D.'s by the Region at least equals the Region's total demand for business doctorates in the sectors of academia, government, and industry.

Basically, there are two reasons for the South to consider an increase in doctoral output in business at a time when the nation seems to be approaching a surplus of Ph.D.'s (as we will see in Chapter 5). Between 1969 and the present, the Southern Region has produced between 19 and 25 percent of the nation's total business and economics doctorates annually. Yet the South currently contains over 30 percent of the United States population. The growth rate of the Region has been above that of the nation as a whole for over a decade and has exceeded that of every Census region (except the Mountain Region) since 1970. The South, and all but one state within it, have also been areas of net immigration for several years. These growth trends are projected to continue.

Moreover, the rate of economic growth in the South has exceeded that of the United States since 1960. Experts forecast that the Region will continue, through 1990, to grow at a faster rate than the nation, and than each of its major subregions, in total personal income, per capita personal income, employment, and population. Hence, the first reason for considering the upgrading of graduate and professional

education in the South at this time is the continued increased demand for academic manpower in the face of growth.

The second reason for increasing doctoral production in the South is quite simple. It is no secret that the Region as a whole is still both socially and economically underdeveloped. The South is not yet on a par with the rest of the nation in terms of industrial advancement, and its elementary schools, secondary schools, and universities are, overall, not on a par with schools nationwide in terms of educational development. As long as the present conditions regarding higher education in general, and doctoral production in particular, persist, the South will continue to be underdeveloped. Manpower growth on the Ph.D. level is one important means of equalizing the Region's status and helping it to reach its potential.

CHAPTER 5

A LOOK AT DOCTORAL DEMAND AND SUPPLY FROM A NATIONAL PERSPECTIVE

Information presented in the preceding chapters details conditions related to the demand for and supply of new business doctorates in the Southern Region of the United States. In order to place these results in their proper perspective, it is useful to conclude this report with an analysis of Ph.D. supply and demand on a national level.

While many studies dealing with doctoral manpower have taken place over the past decade, only a few are comprehensive enough to merit an indepth discussion. The first two of the four reports described below address the subject of Ph.D. demand and supply as it applies to all academic areas and provide an interesting, albeit dismal, picture through the 1980's. They are followed by two other reports whose major emphasis is a national perspective of need for business doctorates. Although we believe that, for the sake of completeness, it is worthwhile to examine the conclusions of the aforementioned works, we do not necessarily agree with each report's interpretation of doctoral business trends. The results presented in Chapters 2, 3, and 4 of this report probably provide the most accurate depiction of business Ph.D. demand and supply in the next four years available to date.

The Cartter Study

The foremost authority on the overall doctoral supply and academic demand situation in the United States was the late Allan M. Cartter. The economist and former Chancellor of New York University concluded, in 1976, eleven years of writing in the area with Ph.D.'s and the Academic Labor Market. This book, written under the auspices of the Carnegie Commission on Higher Education, has been the most complete and sophisticated analysis and projection yet accomplished on Ph.D. academic manpower. Part of the information contained in the book is directly relevant to the doctoral supply and demand conditions in the field of business.

According to Cartter, the demand for new doctoral faculty is a function of several quantifiable variables: (1) the number of students enrolled in college, (2) the ratio of students to faculty, (3) the proportion of faculty openings filled by doctorates, (4) and the need to replace faculty upon death and retirement. College enrollment, the first of these variables, is itself related by Cartter to the college age population, the high school graduation rate, the percentage of high school graduates enrolling in college, and the percentage of college graduates going on to graduate school. He projects that the 18-21 year old college age population will peak in 1980 and then decline slowly, dropping to the 1970 level by 1990. For the sake of brevity, we will pass over Cartter's detailed projections of 18-21 year old

populations, high school graduates, and under-graduate and first-year graduate enrollments in order to move directly to the doctoral scene.

Table 5-1 presents past and projected Cartter data relating to three factors: first-year graduate enrollment, doctorates awarded, and the ratio of doctorates to graduate enrollments. The explosive growth in Ph.D. degrees earned is visible in the second column of the table. Doctorate production in the United States tripled between 1960 and 1970, jumping from 9,829 to 29,866. The increases in the second half of the 1960's were the largest: between 1965 and 1970 the average annual percentage change was 12.6 percent, as contrasted with 10.9 percent between 1960 and 1965.

Significantly, this dramatic rate of growth has not continued into the 1970's, and it is projected that the growth rate will slow even a little more in the second half of this decade. The average annual rate of growth was down to 4.9 percent for the 1970-75 period: it is projected to be 2.5 percent for the 1975-80 period and even less for the decade of the 1980's.

This appreciable slowing of doctorate output might be interpreted as a labor market reaction to an unfavorable job outlook caused by the surplus of manpower and perhaps compounded by economic recession. But Cartter goes on to show that once his other factors are taken into account (including student-faculty ratios, enrollment growth, replacements for college teachers holding doctorates), the slowing doctorate production rate is still not going to correct or avert the labor market

TABLE 5-1

Relationship of Earned Doctorates to First-Year Graduate Enrollment
Four to Six Years Previously

<u>Year</u>	<u>First-Year Graduate Enrollment</u>	<u>Earned Doctorates</u>	<u>Ratio of Doctorates to Average Enrollment, Lagged Four to Six Years</u>	
1955-56	130,000	8,903		
1956-57	144,000	8,756		
1957-58	149,000	8,942		
1958-59	171,000	9,369		
1959-60	192,000	9,829		
1960-61	206,000	10,575	.075	
1961-62	223,000	11,622	.075	
1962-63	246,000	12,822	.075	
1963-64	277,000	14,490	.076	
1964-65	317,000	16,467	.080	
1965-66	358,000	18,237	.081	
1966-67	388,000	20,617	.083	
1967-68	426,000	23,089	.082	
1968-69	456,000	26,188	.083	
1969-70	492,000	29,866	.084	
1970-71	528,000	32,107	.082	
1971-72	539,000	33,370	.079	
1972-73	558,000	34,950	.076	
1973-74	585,000	36,590	.074	
1974-75	614,000	38,030	.073	Actual
1975-76	626,000	39,455	.072	Projected ↓
1976-77	636,000	40,270	.072	
1977-78	647,000	41,410	.071	
1978-79	655,000	42,395	.070	
1979-80	663,000	43,025	.069	
1980-81	668,000	43,675	.069	
1985-86	715,000	45,810	.068	
1990-91	674,000	48,415	.058	

Source: Cartter, p 83.

imbalance. Ph.D.'s will still far outnumber the openings for university teaching jobs—a gap which is apparent in Figure 5-1 from Cartter's study.

Cartter found that the annual number of doctorates added to college faculties as a proportion of new teachers hired had continually risen (to about 75 percent in 1972), and he believed that the proportion of Ph.D.'s to non-Ph.D.'s on faculties would continue to increase. Even if 100 percent of faculty hires were Ph.D.'s, however, he did not think that this faculty "enrichment" process could have much of an impact on the existing and projected imbalance.

The following Cartter observations and conclusions summarize his findings:

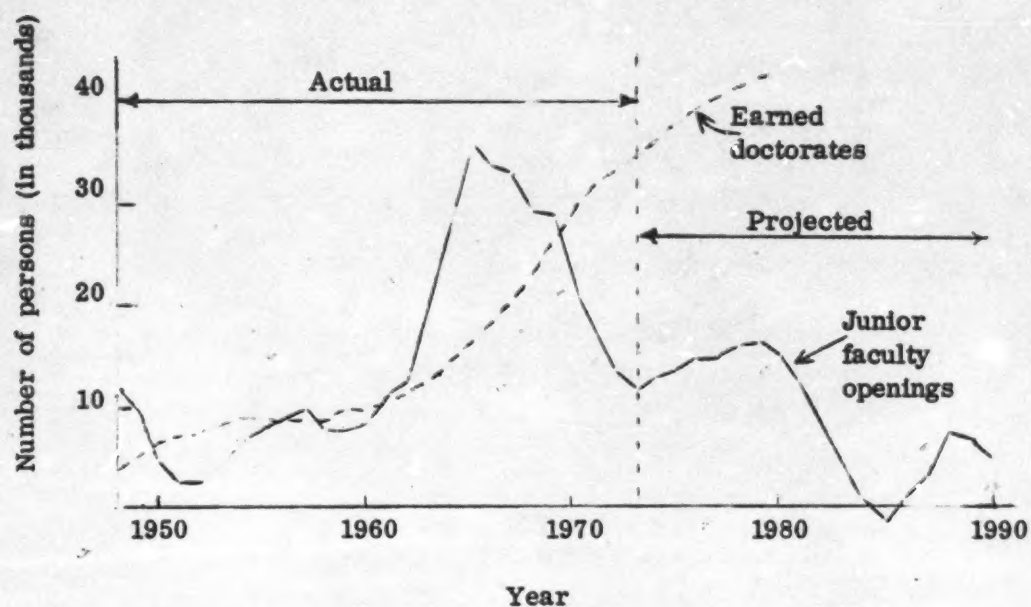
The last half of the 1970's appears to be an approximate continuation of the 1971-1975 experience—not particularly good, but not a severe over-supply period. The 1980's outlook, however, is bleak by any standard, and only a handful of disciplines are likely to come through relatively unscathed. Considering that the majority of Ph.D.'s of the early 1980's are already in graduate school (and first-time enrollments in most nonscience fields are still increasing modestly) it is unlikely that a severe supply imbalance can be avoided.

Thus it appears that the graduate education establishment of 1975 is geared to the unusual growth rates of the mid-1960's, and that, in aggregate, it is turning out Ph.D.'s at a rate about one-third above the needs in the late 1970's, and is projected to over-produce by about 50 percent or more in the 1980's.

Doctorate production is expected to peak between 1981 and 1985 while academic employment is projected to be at its lowest level. In the early 1980's, probably less than one in five Ph.D.'s are likely to find academic positions.

FIGURE 5-1

Comparison of Junior Faculty Openings With Earned Doctorates
Awarded, Actual 1948-1973, Projected 1974-1990*



*Three-year moving average.

Source: Cartter, p. 129.

Obviously the conclusion needs to be differentiated by field; in the humanities it is quite apparent that there will be a significant over-supply over the next five to ten years, while in a few fields, such as environmental biology and computer sciences, the surplus is likely to be small or non-existent. Nevertheless, considerable reduction in the flow of Ph.D.'s will be required if there is not to be a serious employment problem facing new doctorate recipients entering the job market (Cartter, p. 238-39).

The Bureau of Labor Statistics Study

An equally pessimistic study of Ph.D. supply and demand was conducted by the Bureau of Labor Statistics (BLS) in 1972 and partially updated in 1974. The 1972 study, providing 1972-1985 supply and demand estimates, was made before it became clear that the explosive growth in doctorate production of the late 1960's was slowing down--and hence it grossly overestimated Ph.D. supply. The 1974 BLS projections, however, appear to be somewhat more reasonable. By these estimates, the total United States output of Ph.D.'s in all fields between 1974 and 1985 will be 422,900. This figure is an average of about 38,000 per year, a number very close to that produced in 1975-76.

The BLS projections of the total demand for Ph.D.'s (both academic and non-academic) are, by its own statement of intent, very conservative since they assume little job enrichment or other changes in the traditional utilization pattern of Ph.D.'s which might create more jobs. They do not try to incorporate any market responses which could significantly alter both supply and demand. Thus the BLS assumes continuation of trends of the early 1970's and no more.

As seen in Table 5-2, the total BLS demand for Ph.D.'s for the 1974-85 period will be 201,900--110,100 from growth and 91,800 from replacement. The supply of 422,900 is expected to be more than twice the demand.

Surprisingly, the oversupply of Ph.D.'s in business and commerce is seen by the BLS to be even more severe than the "all fields" surplus. The 1974-85 doctoral business supply is projected to be about 13,300. This means an annual average of about 1,200 graduates--a reasonable figure which is very close to the 1976-77 total in business and commerce.

It is the BLS projections of the number of job openings for business doctorates, however, that are questionable. Computing what would probably occur if there were no adjustments in supply and demand trends, the BLS estimates only 200 new openings for the entire eleven-year period (1974-85). It also estimates that 1,400 business and commerce Ph.D.'s will be needed to replace those who retire or die, thus making a total demand of 1,600. Comparing this with the 1974-85 projected supply of 13,300, the result is a supply imbalance of eight times greater than demand.

Despite the high level of dependence by business Ph.D.'s on educational institutions for jobs (as discussed in Chapter 4), the situation will not be nearly as drastic as the BLS projects. All enrollment and degree data available indicate that business will continue to grow more than most fields--at least for the coming few years.

TABLE 5-2

Projected Openings and New Supply for Ph.D.'s, 1974-85

<u>Field</u>	<u>Estimated 1974 Employment</u>	<u>Projected 1985 Requirements</u>	<u>Total</u>	<u>Growth</u>	<u>Labor Force Separations</u>	<u>Projected New Supply 1974-85</u>	<u>Difference between New Supply and Openings</u>
All fields	378,400	488,600	201,900	110,100	91,800	422,900	221,000
Engineering and natural science	177,500	237,500	104,000	60,000	44,000	139,400	35,400
Engineering	35,000	55,700	30,300	20,700	9,600	29,100	-1,200
Physical science	68,500	86,300	34,200	17,800	16,400	38,300	4,200
Life science	60,000	78,900	33,600	18,900	14,700	59,500	25,900
Mathematics	14,000	16,600	5,900	2,600	3,200	12,400	6,500
Social science and psychology	71,600	101,600	48,400	30,000	18,300	88,800	40,400
Arts and humanities	46,600	45,900	9,100	-600	9,800	52,600	43,400
Education	68,700	87,400	35,200	18,700	16,500	115,400	80,200
Business and commerce	6,500	6,800	1,600	200	1,400	13,300	11,700
Other fields	7,500	9,300	3,600	1,800	1,800	13,300	9,700

NOTE: Details may not add to totals due to rounding

Source: Bureau of Labor Statistics, p. 21.

And as we will see in the study described next, many business programs (particularly on the master's level) will continue to expand. With that will occur a commensurate growth in the number of teachers needed.

Projections of the National Center for Education Statistics

The source of much of the raw data employed by both Cartter and the Bureau of Labor Statistics in their studies of academic supply and demand is the National Center for Education Statistics (NCES). The NCES projections of degree output include a yearly analysis of business doctorates, with their latest projections carrying through 1985-86.

A significant feature of the latest NCES study is that business will, if trends continue, increase its share of all masters degrees conferred from 12.9 percent in 1975-76 to 15.4 percent in 1985-86. Also important are the facts that in 1975-76 business schools produced 14.7 percent of all bachelor's degrees, but only 3.1 percent of all doctorates. These figures contrast sharply with production by the physical sciences of only 2.3 percent of total bachelor's, 1.9 percent of master's, but 10.2 of all Ph.D.'s. These and other data indicate quite different patterns of doctoral supply and demand among the various academic disciplines.

NCES projections of bachelor's, master's, and doctor's degrees conferred in business are presented in Tables 5-3, 5-4, and 5-5, respectively. The annual number of bachelor's degrees conferred in business have followed much the same pattern as bachelor's conferred in all fields--steep increases in the late 1960's, preceded by the

TABLE 5-3

Bachelor's Degrees Conferred in Business¹ in the United States
Number and Annual Percentage Growth
(Actual 1960-61 to 1975-76 and Projected 1976-77 to 1985-86)

Actual Degrees			Projected Degrees		
Year	Business Bachelor's	% Growth Change	Year	Business Bachelor's	% Growth Change
1960-61	51,033		1976-77	135,500	1.6 %
1961-62	52,139	2.2 %	1977-78	141,570	4.5
1962-63	54,036	3.6	1978-79	145,560	2.8
1963-64	59,198	9.6	1979-80	147,500	1.3
1964-65	63,055	6.5	1980-81	149,350	1.3
1965-66	63,639	0.9	1981-82	151,720	1.6
1966-67	70,011	10.0	1982-83	151,480	-0.2
1967-68	80,592	15.1	1983-84	150,220	-0.8
1968-69	94,533	17.3	1984-85	147,980	-1.5
1969-70	106,054	12.2	1985-86	142,990	-3.4
1970-71	115,527	8.9			
1971-72	122,009	5.6			
1972-73	126,830	4.0			
1973-74	132,384	4.4			
1974-75	133,822	1.1			
1975-76 ²	133,360	-0.3			

¹ Same as "business and management" category in NCES source.
 Economics degrees in the social sciences not included.

² Preliminary.

Source: NCES, Projections of Education Statistics to 1985-86.

TABLE 5-4

Master's Degrees Conferred in Business¹ in the United States
 Number and Annual Percentage Growth
 (Actual 1960-61 to 1975-76 and Projected 1976-77 to 1985-86)

Actual Degrees			Projected Degrees		
Year	Business Master's	% Growth Change	Year	Business Master's	% Growth Change
1960-61	4,775		1976-77	45,120	11.1
1961-62	5,401	13.1	1977-78	48,970	8.5
1962-63	5,938	9.9	1978-79	52,120	6.4
1963-64	6,513	9.7	1979-80	55,010	5.5
1964-65	7,690	18.1	1980-81	57,350	4.3
1965-66	13,142	69.6	1981-82	59,850	4.3
1966-67	15,110	15.0	1982-83	61,720	3.1
1967-68	18,101	20.0	1983-84	62,980	2.0
1968-69	19,612	8.3	1984-85	63,370	0.6
1969-70	21,599	10.1	1985-86	63,050	-0.5
1970-71	26,544	22.9			
1971-72	30,433	14.7			
1972-73	31,166	2.4			
1973-74	32,753	5.1			
1974-75	36,364	11.0			
1975-76 ²	40,630	11.7			

¹Economics degrees in the social sciences not included.

²Preliminary

Source: NCES, Projections of Education Statistics to 1985-86.

TABLE 5-5

Doctoral Degrees Conferred in Business¹ in the United States
 Number and Annual Percentage Growth
 (Actual 1960-61 to 1975-76 and Projected 1976-77 to 1985-86)

Actual Degrees			Projected Degrees		
Year	Business Doctorates	% Growth Change	Year	Business Doctorates	% Growth Change
1960-61	172	27.4 %	1976-77	1,190	9.2 %
1961-62	226	31.4	1977-78	1,250	5.0
1962-63	250	10.6	1978-79	1,270	1.6
1963-64	275	10.0	1979-80	1,290	1.6
1964-65	329	19.6	1980-81	1,360	5.4
1965-66	402	22.2	1981-82	1,500	10.3
1966-67	454	12.9	1982-83	1,620	8.0
1967-68	460	1.3	1983-84	1,700	4.9
1968-69	546	18.7	1984-85	1,800	5.9
1969-70	622	13.9	1985-86	1,860	3.3
1970-71	810	30.2			
1971-72	902	11.4			
1972-73	932	3.3			
1973-74	983	5.5			
1974-75	1,011	2.8			
1975-76 ²	1,090	7.8			

¹Economics degrees in the social sciences not included.

²Preliminary.

Source: NCES, Projections of Education Statistics to 1985-86.

moderately rapid growth in the early 1960's and followed by moderate growth in the early 1970's. The following average annual growth rates in bachelor's degrees awarded were experienced or are projected for the five-year periods from 1961 to 1985:

1961-1965	4.8%
1966-1970	11.1%
1971-1975	4.8%
1976-1980	2.0%
1981-1985	0.1%

We see that the current five-year period is estimated to show an annual growth rate of only 2 percent, and that there will be no growth at all in the early 1980's. In fact, it is projected that the actual number of bachelor's in business will peak in the 1981-82 school year at 151,720 and will decrease slightly thereafter. In examining these figures, we must remember that the NCES projections are based only on current trends in population and on the participation rates for each field. The above projections assume the continuation of present trends.

If we take the projected number of bachelor's as a rough indicator of enrollment sizes and hence of the demand for new faculty, we can see that in the second half of the 1970's enrollment growth alone cannot be counted on to create large numbers of new teaching jobs.

On the master's degree level in business, the outlook is brighter. Masters' degree output is projected to grow at an average annual rate of 8.6 percent during the 1976-1980 period. The annual growth rates below also illustrate the expansion of the last fifteen years in master's output in business areas:

1961-65	12.2%
1966-70	24.6%
1971-75	11.2%
1976-80	8.6%
1981-85	2.9%

Can growth in master's degree output, which is equal to about one-third of bachelor's degree output (41,000 versus 133,000 in 1975-76) significantly boost the overall demand for business teachers? Considering the other positive factors, namely that graduate programs have lower student-faculty ratios than undergraduate--somewhere between ten or fifteen to one--and that the proportion of Ph.D.'s on these faculties (80 to 90 percent) is higher than the overall college proportion, the increases in graduate enrollments could, according to the NCES, have a substantial impact on the need for Ph.D.'s.

The projected growth in master's degrees awarded is not so much the result of population growth (there will be little) as it is the increasing participation in business graduate education. Increase in the demand for undergraduate faculty beyond replacement needs, on the other hand, will have to come from lower pupil-faculty ratios and increased Ph.D. composition of faculties.

If present trends continue, NCES predicts that business schools will put out more and more Ph.D.'s each year (Table 5-5). The number conferred in 1985 is estimated to be double the 902 produced in 1972.

The average annual growth in earned doctorate degrees is shown below:

1961-1965	19.7%
1966-1970	13.8%
1971-1975	10.6%
1976-1980	5.0%
1981-1985	6.9%

AACSB Bulletin Articles

A fourth estimate of Ph.D. supply and demand in business comes from 1971 and 1972 articles appearing in the AACSB Bulletin by Rudolph White.^{1,2} These articles, it should be noted, appeared at the time of transition from an undersupply to an oversupply of Ph.D.'s, a period which saw the change from a "seller's" market to a "buyer's" market.

In the 1972 article, White estimated the long range supply of Ph.D.'s by taking 7 percent of master's degrees awarded seven years earlier. This procedure generated an annual doctoral output of about 1,000 in 1973, almost 1,400 in 1975, and a rise to 2,000 in the school year ending in 1981. These projections are somewhat higher than doctorate output estimated by the NCES in Table 5-5.

Figuring the demand for business Ph.D.'s, White assumed annual undergraduate and graduate enrollment increases of 4 and 8 percent, respectively, with masters students weighted double because of the lower student-faculty ratios. He estimated that these growth rates would

¹"Prospects for a Changing Recruiting Situation for Business Administration Faculty," AACSB Bulletin, April, 1971, p. 41.

²"Managing Business Doctoral Programs for the 70's--Cutback on Continued Growth," AACSB Bulletin, January, 1972, p. 41.

require a 6 percent faculty expansion factor. By aging a sample of regular faculty appearing in the 1970 AACSB Faculty Personnel from the date each received his bachelor's degree, he found a 4 percent annual replacement rate.

By this estimation, 1,300 new faculty would be required in 1970-71; 1,600 in 1972-73; 2,100 in 1975; and 3,500 in 1980. If 60 percent of the new hires hold the doctorate, the demand for new Ph.D.'s was projected to rise from about 780 in 1972 to 1,250 in 1975 and 2,000 in 1981. On this basis, White concluded, "new Ph.D. supply and demand projections reach an approximate balance in 1972-73. Thereafter, if unchecked, the demand increment will be exceeded by roughly 200 new doctorates per year."

In the same article, White also used the AACSB's Business Enrollment and Faculty Projections, 1970-71, in which schools indicated the number of new Ph.D.'s that they expected to employ in the next several years. These data were compared with the school estimates of the number of Ph.D.'s they would be graduating (also from the AACSB source). According to White, with all business disciplines combined, the reported figures indicated a supply-demand balance. Among the disciplines, the major exceptions were management, where new Ph.D.'s were projected to outnumber demand by a seven to one ratio, and information systems, where the supply would be enough to meet only one-half of the demand.

TABLE 5-6

Estimates of New Ph.D.'s Which will be Required to Maintain Terminality Ratios for Selected Business Disciplines, 1970 to 1980

<u>Year</u>	<u>Accounting</u>	<u>Economics</u>	<u>Marketing</u>	<u>Finance</u> ¹	<u>Management</u>	<u>Quantitative Analysis</u>	<u>Other</u> ²
1970	156	122	92	95	141	66	55
1971	172	134	101	105	155	73	62
1972	189	141	111	115	171	80	68
1973	208	162	122	126	188	88	75
1974	229	178	134	138	207	97	82
1975	252	196	147	151	228	107	90
1976	277	216	162	166	251	118	99
1977	305	238	178	182	276	130	109
1978	336	262	196	200	304	143	120
1979	370	288	216	220	335	157	132
1980	407	317	238	242	369	173	145

¹Including real estate and insurance.

²Including international business.

Source: White, AACSB Bulletin, January, 1972, p. 41.

White's actual year-by-year demand estimates are shown in Table 5-6. Although he failed to catch up with the strong demand for business doctorates throughout the mid-and late 1970's, his projections for 1980 are reasonable by academic area and in toto. And although his forecast that management Ph.D.'s would exceed demand by a seven to one ratio did not hold, it is true that the supply in the information systems area has yet to meet demand.

Concluding Commentary

Doctorate holders in business and Ph.D.'s in other academic areas have both significant similarities and significant differences. Demographic patterns illustrated in studies by Allan Cartter and the Bureau of Labor Statistics, for example, affect enrollments in all academic fields. Because academic demand for Ph.D.'s in most fields is largely determined by enrollment sizes, the doctoral graduates in business will share this situation with non-business colleagues. Thus business enrollments and faculty demand grew rapidly when the 18-21 year old population reached its peak growth rates in the 1960's.

Yet when oversupply problems began in some fields in the early 1970's, business felt very little pressure. And although Cartter and others warn that by the mid-1980's most business specializations (particularly economics, management, marketing, and finance) will face a Ph.D. supply-demand imbalance, business as a whole will be much better off than other fields. Demand for accounting and information systems faculty may even continue strongly through that date.

There are, of course, several reasons why undergraduate and graduate enrollments in business can be expected to hold up better than enrollments in other disciplines and overall enrollments. Because business in general, and the increasingly popular MBA programs in particular, attract a high percentage of students outside the traditional 18-24 year old college age population, population trends may favor business. The growth which enlarged the college age population at exceptionally fast rates in the 1960's will be entering the 30-39 year old age bracket in the next thirteen years. Of this segment of the population, one writer states:

It rises throughout this period [1975-90] and in 1990 should be about 57 percent higher than in 1975. Clearly on population grounds alone, this is the major expanding market for business schools (Turner, p. 58).

This group will tend to be people who are working in metropolitan areas and attending school part-time. Hence, a substantial portion of the strength of business enrollments will occur on commuter campuses rather than on the residential campuses removed from metropolitan areas.

As overall undergraduate enrollments decline in the 1980's, business may be the exception for a second reason. To the extent that starting salary and job opportunities are factors in one's decision to go to college or to choose a field of study, undergraduate enrollments may be given a boost. The one exception to the general rule of declining relative salaries of college graduates has been of

late, students of business administration. The recent economic recession, furthermore, may have induced a practical mindedness which might manifest itself in a higher participation rate in business relative to other fields.

In the academic world as a whole, there are already numerous consequences of the surplus of doctoral manpower for teaching positions. New Ph.D.'s need to know that they will be facing an increasingly competitive market. One does not get a Ph.D., however, without being resourceful. Ph.D.'s in several areas may encounter "under-employment" of their resources and enter, in larger shares, the non-academic job market. The field of business, we believe, will demonstrate its flexibility to adjust to the impending mid-1980's labor market problem and--with further study, constant monitoring, and the formulation of appropriate external control--adjust itself toward a point of equilibrium.

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